



**BASELINE ENVIRONMENTAL ASSESSMENT  
CONDUCTED PURSUANT TO SECTION 20126(1)(C)  
OF 1994 PA 451, PART 201, AS AMENDED  
AT  
@WATER LOFTS DEVELOPMENT (SOUTH)  
PARCEL H  
1470 EAST ATWATER STREET  
DETROIT, MICHIGAN 48207**

*Prepared for*

**@WATER LOFTS, LLC  
78 WATSON STREET – SUITE 100  
DETROIT, MICHIGAN, 48201**

**AKT Peerless Project No. 5133D-8-26  
December 15, 2006**

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MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY  
ENVIRONMENTAL RESPONSE DIVISION

FOR DEQ USE ONLY

BEA Disclosure # \_\_\_\_\_

DISCLOSURE OF A BASELINE ENVIRONMENTAL ASSESSMENT  
(FORM EQP4446(REV.3/99))

(Under the authority of Part 201, 1994 Act 451, as amended, and the Rules promulgated thereunder)

**DO NOT use this form for requesting a Baseline Environmental Assessment ("BEA") adequacy determination, OR if the property is not a facility, OR if the BEA was complete before the effective date of the BEA rules. Please answer the following questions as completely as possible.**

Name and address of submitter\*  
(individual or legal entity):

@water Lofts, LLC  
78 Watson Street  
Suite 100  
Detroit, Michigan 48201

Status relative to the property:

	Former	Current	Prospective
Owner*	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Operator*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Address/location of property where  
BEA was conducted:

1470 East Atwater Street  
Detroit, Michigan 48207

County: Wayne

**Provide the property tax identification number(s) or, if applicable, the ward and item number(s) for the property identified in the BEA. Required pursuant to Rule 907.**

Ward Item Number 7/000005

Contact person: Mr. Dwight Belyue

Telephone #: 313-833-3600

If the address of the person seeking liability protection above is different from the address that should be used to correspond with the contact person, please provide the contact person's address:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Check the appropriate response to each of the following questions.

1. Is it known that the source of contamination at the property is primarily from any of the following?

- A leaking underground storage tank (UST) regulated under Part 213, 1994 PA 451, as amended.
- A licensed landfill or solid waste management facility.
- A licensed hazardous waste treatment, storage, or disposal facility.
- Oil and gas development related activities.

YES	NO
<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>

The source of the release that resulted in this property becoming a "facility" will determine which DEQ division will maintain a file regarding this BEA.

2. Based on the Part 201 Rules, this BEA is a:

Category N	<input checked="" type="checkbox"/>
Category D	<input type="checkbox"/>
Category S	<input type="checkbox"/>

3. Is the property at which the BEA was conducted a "facility"\* as defined by Section 20101? If the answer to this question is NO, do not submit the BEA to the DEQ.

YES	NO
<input checked="" type="checkbox"/>	<input type="checkbox"/>

4. Was the BEA conducted\* prior to or within 45 days after the date of purchase\*, occupancy, or foreclosure of the property, whichever is earliest, and completed\* not more than 15 days after the date required by Section 20126(1)(c) or Rule 299.5903(8)? If the answer to either portion of this question is no, you are ineligible for an exemption from liability based on the BEA. YES ☒ NO ☐
5. Is the BEA being disclosed to the DEQ no later than 8 months after the earliest of the date of purchase, occupancy, or foreclosure? All disclosures pursuant to Rule 919(3) must be submitted to the DEQ no later than 8 months after the earliest of the date of purchase, occupancy, or foreclosure. YES ☒ NO ☐
6. Are any USTs or abandoned or discarded containers identified in the BEA? If yes, this information must be provided on Form EQP4476. YES ☐ NO ☒
7. Does this BEA rely on an isolation zone or an engineering control that requires an affidavit pursuant to Rule 299.5909(3) or 299.5909(4)? If yes, a completed affidavit, Form EQP4479, must be attached or the BEA will not be considered complete. YES ☐ NO ☒

With my signature below, I certify that the enclosed BEA and all related materials are complete and accurate to the best of my knowledge and belief. I understand that intentionally submitting false information to the DEQ is a felony and may result in fines up to \$25,000 for each violation.

Signature of Submitter:   
(Person legally authorized to bind the person seeking liability protection)

1/23/07  
Date

Name (Typed or Printed) Mr. Dwight Belyue

Title Member



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- C. Legal Description of Subject Property
- D. Property Photographs
- E. AKT Peerless' Professional Experience
- F. Draft Development Plan

#### **ATTACHMENT**

Previous Environmental Reports (CD)

**BASELINE ENVIRONMENTAL ASSESSMENT  
CONDUCTED PURSUANT TO SECTION 20126(1)(C)  
OF 1994, PA 451, PART 201, AS AMENDED  
AND THE RULES PROMULGATED THEREUNDER  
AT  
@WATER LOFTS DEVELOPMENT (SOUTH)  
1470 EAST ATWATER STREET  
DETROIT, MICHIGAN 48207  
PROJECT NO. 5133D-8-26**

**1.0 IDENTIFICATION OF AUTHOR AND DATE OF BEA COMPLETION**

AKT Peerless Environmental Services (AKT Peerless) was retained by the Detroit/Wayne County Port Authority to prepare this Baseline Environmental Assessment (BEA) on behalf of @water Lofts, LLC. This BEA included the property located at 1470 East Atwater Street (Parcel H) between Rivard and Riopelle Streets in Detroit, Michigan (subject property).

AKT Peerless' scope of work was based on (1) Section 20126(1)(c) of Part 201 of the Natural Resources and Environmental Protection Act (NREPA), 1994 Public Act (PA) 451, as amended, and (2) Michigan Department of Environmental Quality (MDEQ) *Instructions for Preparing and Disclosing Baseline Environmental Assessments and Section 7a Compliance Analysis*, dated March 11, 1999. This BEA was conducted and completed on December 15, 2006, by Janet Michaluk and Timothy J. McGahey of AKT Peerless.

**2.0 INTRODUCTION**

The subject property is located at 1470 East Atwater Street (Parcel H) on the southern side of Atwater Street between Rivard and Riopelle Streets in Detroit, Wayne County, Michigan. The subject property consists of a one parcel consisting of approximately 4.91-acres of land. See

Appendix C for the legal description of the subject property. See Figure 1 for a topographic site map of the subject property. See Figure 2 for the subject property, utility, and soil boring location map.

The BEA was prepared (1) to provide an independent, professional evaluation and opinion regarding existing environmental conditions associated with the subject property at the time of purchase and (2) to maintain a liability exemption for cleanup of existing contamination at the subject property.

## 2.1 CATEGORY SELECTION

@water Lofts, LLC intends to construct a mixed-use commercial and residential building, with first-floor retail and upper-story residential units. @water Lofts, LLC does not intend to use, manage, or store significant quantities of hazardous substances at the subject property. Refer to Appendix F for a Draft Development Plan.

According to the MDEQ's *Instructions for Preparing and Disclosing Baseline Environmental Assessments*, a property "at which there will be no significant hazardous substance use," is classified as Category N. Therefore, on behalf of @water Lofts, LLC at the request of DWCPA, AKT Peerless has prepared a Category N BEA.

## 2.2 SITE HISTORY

The following table summarizes the general development and use of the subject property, as identified by AKT Peerless.

Parcel H 1470 E. Atwater Street				
Time Period	Improvements	Use	Owner / Occupant	Data Source(s)
1884	Several sheds.	Lumber, coal storage, and Lime Kiln	R.C. Faulconer and F.B. Sibley & Co. Lime Kiln	Sanborns



Parcel H 1470 E. Atwater Street				
Time Period	Improvements	Use	Owner / Occupant	Data Source(s)
1887	Construction of large rectangular building.	Powerhouse boiler room and offices, Ice Company, and Lime and Stone Yard.	Pittman and Deans Ice Company (1897), Detroit Ry Powerhouse (1897-1922), and J.H. Little Lime and Stone Yard	Sanborns
1922 – 1956	Removal of sheds.	Powerhouse	Public Lighting Commission (1951)	Municipal records Aerial photographs City directories Sanborns
1961	Removal of former buildings.	Vacant land	Unknown	Municipal records Aerial photographs City directories Sanborns
1966-2002	Construction of two rectangular buildings.	Light industrial/manufacturing	Cooper Supply Co. (1967) and Koenig Fuels and Supply (1970 and 1997-2003)	Municipal records Aerial photographs City directories Topographic map Sanborns
2006	Demolition of remaining structures.	Vacant	City of Detroit	Municipal records Aerial photographs City directories Topographic map Sanborns

See Figure 2 for the subject property, utility, and soil boring location map. Refer to Appendix A for a copy of AKT Peerless' October 2006 Phase I ESA Report. Refer to The attachment for a CD of the previous environmental reports containing additional information regarding the current and historical uses of the subject property.

## **2.3 SUMMARY OF PREVIOUS ENVIRONMENTAL INVESTIGATIONS**

The following sections summarize previous environmental activities conducted at the subject property.

### **2.3.1 Enviro Matrix's June 2005 BEA**

@water Lofts provided AKT Peerless with a copy of a Category "N" Baseline Environmental Assessment (BEA), prepared in June 2005 by Enviro Matrix on behalf of the City of Detroit. The BEA was disclosed to the MDEQ on June 30, 2005. Enviro-Matrix's BEA included previous environmental investigations of the subject property, which are summarized in the following subsections:

- Phase I Environmental Site Assessment, prepared in May 1999 by Environmental Consulting and Technology Inc. (ECT) on behalf of The City of Detroit.

On May 28, 1999, ECT conducted a Phase I ESA of Parcel H. At the time of Phase I Environmental Site Assessment, the subject property consisted of a cement material distribution and storage facility with no structures except packing and loading hoppers and an operations control room. The purpose of ECT's Phase I ESA was to determine if the current and historical use of the property resulted in recognized environmental conditions. ECT identified the following environmental concerns associated with Parcel H.

1. three pole-mounted transformers of unknown age and PCB status
2. current and historical industrial use of the property (coal yard, marine terminal, cement plant, public lighting commission, Detroit Street Railway yard)
3. possible vent pipe indicating abandoned UST
4. surface staining from truck fueling
5. potential releases from numerous former USTs
6. the use of fill material during water front construction
7. onsite storage of UST and ASTs
8. current and historical use of the adjacent properties

ECT recommended conducting a Phase II subsurface investigation to evaluate the environmental concerns identified during the Phase I ESA.

- Phase II Environmental Inquiry, prepared in May 1999 by Roy F. Weston Inc. (Weston) on behalf of The City of Detroit.

In May 1999, Weston completed a Phase II Environmental Inquiry for the Waterfront Reclamation Casino Development Project. The purpose of this inquiry was to provide the information necessary to complete an Administrative Agreement and Covenant Not to Sue with the State of Michigan. The investigation area included 107 parcels and adjacent rights-of-way – part of which included the subject property Parcels D through H. Weston's investigation included (1) review of existing environmental reports, (2) geophysical survey of select parcels, (3) collecting surface samples from select parcels, (4) an evaluation of abandoned containers, and (5) drilling soil borings.

Weston conducted assessment activities on the subject property Parcels D through G. During the investigation on these parcels, Weston (1) conducted a geophysical surveys of Parcels F and G (outside of buildings), (2) drilled soil borings on Parcels D through H, (3) collected soil and groundwater samples, and (4) submitted soil samples for laboratory analyses. Samples were submitted for laboratory analyses of select parameters including volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and Michigan metals<sup>1</sup>.

The following table provides a summary of analytical results detected above applicable criteria at the respective parcel.

---

<sup>1</sup> Michigan Metals include arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, silver, and zinc.



Parcel Designation	Matrix	Parameter	Criteria Exceeded
Parcel D	Soil	SVOCs	Direct Contact
	Groundwater	SVOCs	Groundwater Contact
Parcel E (r-o-w)	Soil	Metal (arsenic)	Direct Contact
Parcel F	Soil	SVOCs Metals (arsenic and lead)	Direct Contact
	Groundwater	SVOCs	Groundwater Contact
Parcel H	Soil	BTEX	Groundwater to Surface Water Interface Drinking Water

In addition, several abandoned containers (ASTs, drums, etc.) were observed at the subject property during Enviro-Matrix investigation. These containers have since been removed from the subject property.

According to Enviro-Matrix, geophysical surveys conducted on the subject property identified two anomalies (one on northeast corner and one on southeast corner) on Parcel F. AKT Peerless was not provided with any additional information regarding investigation of these anomalies. It is important to note that the surveys were not conducted on all parcels (only Parcels F and G), and were conducted outside the former buildings. Refer to The attachment for a CD of previous environmental reports.

### **2.3.2 AKT Peerless's October 2006 Phase I ESA**

On October 31, 2006, AKT Peerless completed a Phase I ESA of the subject property on behalf of DWCPA. The purpose of AKT Peerless' ESA was to provide an independent, professional opinion of the *recognized environmental conditions* (RECs) or *historical recognized environmental conditions* (HRECs) associated with the subject property, if any. The RECs identified by AKT Peerless are summarized below.

- Parcel H consisted of a coal and lumber storage yard from at least 1884 until industrial buildings were constructed in the late 1880s. These buildings were occupied by a powerhouse, a boiler room, a blacksmith shop, a machine shop, an oil house, coal bunkers, an ice house, and a lime kiln and storage yard. These structures were demolished between 1956 and 1961, and replaced with another industrial building. This building was occupied by a fuel supply company until it was demolished in the 2000s. Analytical results of previous investigations indicate that BTEX concentrations were detected in soil above MDEQ Part 201 GSI and Drinking Water Protection Criteria. It is AKT Peerless' opinion that a potential



exists for the subject property's soil and groundwater to have been adversely affected by the historical use of Parcel H.

- AKT Peerless observed fill material on the ground surface of each of the subject property parcels. The origin of this material is not known. Historical shipping wells formerly present on a portion of the subject property were filled with an unknown material.
- Historical information indicates that the following USTs were located on Parcel H:

Underground Storage Tanks				
Installation Date	Tank Contents	Tank Capacity	Removal Date	Tank Status
April 1956	Gasoline	2,000 gallons	Unknown	Unknown
June 1960	Gasoline	2,000 gallons	Unknown	Unknown
December 1961	Gasoline	6,000 gallons	September 1990	Removed
December 1961	Diesel	12,000 gallons	September 1990	Removed

According to Fire Department records the 6,000-gallon gasoline UST and the 12,000-gallon diesel UST – formerly located along the northeastern portion of the former building – were removed in September 1990. In addition, fire department file information indicates two 2,000-gallon gasoline USTs were installed on Parcel H in 1956 and 1960, respectively. However, this information did not indicate whether these USTs were removed from Parcel H.

- Industrial activities were conducted on the adjoining properties beginning in the 1800s. The eastern adjoining property was identified on the “open” LUST site database.

Refer to Appendix A for a copy of AKT Peerless' October 2006 Phase I ESA Report.

### **2.3.3 AKT Peerless' December 2006 Phase II ESA**

On December 7, 2006 and December 11, 2006, AKT Peerless conducted a subsurface investigation of the subject property in accordance with AKT Peerless' Proposal for a Phase II Site Investigation (Proposal Number PD - 7465), dated October 31, 2006. AKT Peerless conducted a subsurface investigation to evaluate the environmental concerns identified during the Phase I ESA and previous environmental investigations. During the investigation, AKT Peerless (1) completed a geophysical survey, (2) drilled 18 soil borings, (3) installed 13 temporary groundwater monitoring wells, (4) collected 27 soil samples and 13 groundwater samples, and (5) submitted samples for laboratory analysis. Samples were submitted for select laboratory analysis including VOCs, polynuclear aromatic hydrocarbons (PNAs), Michigan Metals, and/or

PCBs. AKT Peerless performed a qualitative evaluation of all soil samples collected during drilling and a quantitative analysis (laboratory analysis) of discrete soil and groundwater samples.

## Results

### Soil Analytical Results

AKT Peerless submitted 27 soil samples for laboratory analysis. The following table summarizes the soil boring locations, the analytes detected, and their respective exceeded MDEQ GRCC.

Soil Boring Location & Depth	Parameter	DWP	SVIAI	VSIC	PSI	DC	GSIP
B-1 (9-10)	Trichloroethylene	<input checked="" type="checkbox"/>					
	Arsenic	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	
	Mercury						<input checked="" type="checkbox"/>
	Selenium						<input checked="" type="checkbox"/>
B-2 (1-3)	Arsenic	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	
B-2 (5-7)	Arsenic	<input checked="" type="checkbox"/>					
	Mercury						<input checked="" type="checkbox"/>
	Selenium						<input checked="" type="checkbox"/>
B-3 (5-6)	Arsenic	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	
	Mercury						<input checked="" type="checkbox"/>
	Selenium						<input checked="" type="checkbox"/>
B-5 (5-6)	Naphthalene						<input checked="" type="checkbox"/>
	Benzo(a)pyrene					<input checked="" type="checkbox"/>	
	Fluoranthene						<input checked="" type="checkbox"/>
	Lead					<input checked="" type="checkbox"/>	
B-6 (4-6)	Arsenic	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Lead					<input checked="" type="checkbox"/>	
	Mercury						<input checked="" type="checkbox"/>
	Selenium	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>
	Silver						<input checked="" type="checkbox"/>
B-7 (0-0.5)	Naphthalene						<input checked="" type="checkbox"/>
	Arsenic	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B-7 (1-3)	Mercury						<input checked="" type="checkbox"/>
	Selenium						<input checked="" type="checkbox"/>
	Silver						<input checked="" type="checkbox"/>
B-8 (0-0.5)	Acenaphthene						<input checked="" type="checkbox"/>
	Benzo(a)pyrene					<input checked="" type="checkbox"/>	
	Fluoranthene						<input checked="" type="checkbox"/>
	Fluorene						<input checked="" type="checkbox"/>
	Naphthalene						<input checked="" type="checkbox"/>

Soil Boring Location & Depth	Parameter	DWP	SVIAI	VSIC	PSI	DC	GSIP
B-8 (2-4)	Phenanthrene						<input checked="" type="checkbox"/>
	Arsenic	<input checked="" type="checkbox"/>					
	Arsenic	<input checked="" type="checkbox"/>					
	Mercury						<input checked="" type="checkbox"/>
	Selenium						<input checked="" type="checkbox"/>
B-9 (0-0.5)	Silver						<input checked="" type="checkbox"/>
	Arsenic	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	
	Mercury						<input checked="" type="checkbox"/>
B-10 (2-4)	Selenium						<input checked="" type="checkbox"/>
	Arsenic	<input checked="" type="checkbox"/>					
	Mercury						<input checked="" type="checkbox"/>
B-11 (2-4)	Arsenic	<input checked="" type="checkbox"/>					
	Lead					<input checked="" type="checkbox"/>	
	Mercury						<input checked="" type="checkbox"/>
	Selenium						<input checked="" type="checkbox"/>
B-12 (0-0.5)	Selenium						<input checked="" type="checkbox"/>
B-12 (2-4)	Arsenic	<input checked="" type="checkbox"/>					
B-13 (2-4)	Arsenic	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	
	Selenium						<input checked="" type="checkbox"/>
B-14 (0-0.5)	Benzo(a)pyrene					<input checked="" type="checkbox"/>	
	Fluoranthene						<input checked="" type="checkbox"/>
	Phenanthrene						<input checked="" type="checkbox"/>
	Arsenic	<input checked="" type="checkbox"/>					
	Mercury						<input checked="" type="checkbox"/>
	Silver						<input checked="" type="checkbox"/>
B-14 (2-4)	Benzo(a)pyrene					<input checked="" type="checkbox"/>	
	Arsenic	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Lead					<input checked="" type="checkbox"/>	
	Mercury	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>
	Selenium	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>
	Silver						<input checked="" type="checkbox"/>
B-15 (0-0.5)	Benzo(a)pyrene					<input checked="" type="checkbox"/>	
	Fluoranthene						<input checked="" type="checkbox"/>
	Phenanthrene						<input checked="" type="checkbox"/>
	Arsenic	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	
	Lead					<input checked="" type="checkbox"/>	
	Mercury						<input checked="" type="checkbox"/>
	Selenium						<input checked="" type="checkbox"/>
	Silver						<input checked="" type="checkbox"/>
B-15 (6-8)	Arsenic	<input checked="" type="checkbox"/>					
	Mercury						<input checked="" type="checkbox"/>
	Selenium						<input checked="" type="checkbox"/>
B-16 (6-8)	Arsenic	<input checked="" type="checkbox"/>					



Soil Boring Location & Depth	Parameter	DWP	SVIAI	VSIC	PSI	DC	GSIP
	Mercury						<input checked="" type="checkbox"/>
B-17 (3-4)	Arsenic	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	
	Mercury						<input checked="" type="checkbox"/>
	Selenium						<input checked="" type="checkbox"/>
B-18 (2-4)	Arsenic	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	
B-18 (6-8)	Arsenic	<input checked="" type="checkbox"/>					
	Mercury						<input checked="" type="checkbox"/>

No other parameters were detected above GRCC. Refer to Table 1 for a summary of soil analytical results. Refer to Appendix B for a complete analytical laboratory report. See Figure 3 for the site map with soil analytical results exceeding MDEQ GRCC.

#### Groundwater Analytical Results

AKT Peerless submitted 13 groundwater samples for laboratory analysis. The following table summarizes the groundwater locations, the analytes detected, and their respective exceeded MDEQ GRCC.

Soil Boring Location & Depth	Parameter	DW	GVIAI	GC	GSI
B-2w	Arsenic	<input checked="" type="checkbox"/>			
	Lead	<input checked="" type="checkbox"/>			
	Mercury				<input checked="" type="checkbox"/>
	Silver				<input checked="" type="checkbox"/>
B-3w	Arsenic	<input checked="" type="checkbox"/>			
	Lead	<input checked="" type="checkbox"/>			
B-4w	Arsenic	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>
	Lead	<input checked="" type="checkbox"/>			
	Mercury				<input checked="" type="checkbox"/>
	Selenium	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>
	Silver				<input checked="" type="checkbox"/>
B-5w	Lead	<input checked="" type="checkbox"/>			
B-6w	Arsenic	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>
	Lead	<input checked="" type="checkbox"/>			
	Mercury				<input checked="" type="checkbox"/>
	Selenium				<input checked="" type="checkbox"/>
B-7w	Arsenic	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>
	Lead	<input checked="" type="checkbox"/>			



Soil Boring Location & Depth	Parameter	DW	GVIAI	GC	GSI
	Mercury				<input checked="" type="checkbox"/>
B-10w	Arsenic	<input checked="" type="checkbox"/>			
	Lead	<input checked="" type="checkbox"/>			
	Mercury				<input checked="" type="checkbox"/>
B-11w	Arsenic	<input checked="" type="checkbox"/>			
	Lead	<input checked="" type="checkbox"/>			
	Mercury				<input checked="" type="checkbox"/>
	Selenium				<input checked="" type="checkbox"/>
B-13w	Lead	<input checked="" type="checkbox"/>			
	Silver				<input checked="" type="checkbox"/>
B-14w	Arsenic	<input checked="" type="checkbox"/>			
	Lead	<input checked="" type="checkbox"/>			
	Mercury	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>
	Selenium				<input checked="" type="checkbox"/>
	Silver				<input checked="" type="checkbox"/>
B-16w	Arsenic	<input checked="" type="checkbox"/>			
	Lead	<input checked="" type="checkbox"/>			
	Mercury	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>
	Silver				<input checked="" type="checkbox"/>
B-18w	Arsenic	<input checked="" type="checkbox"/>			
	Lead	<input checked="" type="checkbox"/>			
	Mercury				<input checked="" type="checkbox"/>
	Silver				<input checked="" type="checkbox"/>

No other parameters were detected above GRCC. Refer to Table 2 for a summary of groundwater analytical results. Refer to Appendix B for a complete analytical laboratory report. See Figure 4 for the site map with groundwater analytical results exceeding MDEQ GRCC.

### Conclusion

Based on the laboratory results, the subject property does meet the definition of a “facility”, as defined in Part 201.

### **3.0 PROPERTY DESCRIPTIONS AND INTENDED HAZARDOUS SUBSTANCE USE**

Presented in the sections below are (1) the property description, (2) a summary of intended land use, and (3) intended hazardous substance use activities. See Figure 1 for a topographic site map, and Figure 2 for the subject property, utility, and soil boring location map.

#### **3.1 PROPERTY DESCRIPTION**

The subject property is located at 1470 East Atwater Street (Parcel H) on the southern side of East Atwater Street between Rivard and Riopelle Streets in Detroit, Wayne County, Michigan. The subject property consists of a 4.91-acre rectangular-shaped parcel (Ward Item Numbers 7/000005). The subject property is currently vacant land, and is located in a commercial and industrial area of Detroit, Michigan. The subject property is zoned M4 (Intensive Industrial District) and PD (Planned Development District). See Figure 1 for a topographic site map of the subject property. See Figure 2 for the subject property, utility, and soil boring location map with soil boring locations. See Appendix C for a legal description.

#### **3.2 INTENDED LAND USE**

@water Lofts, LLC intends to construct a mixed-use commercial and residential building, with first-floor retail and upper-story residential units. @water Lofts, LLC does not intend to use, manage, or store significant quantities of hazardous substances at the subject property. Refer to Appendix F for a Draft Development Plan.

#### **3.3 INTENDED HAZARDOUS SUBSTANCE USE**

The intended future use of the subject property at this time by @water Lofts, LLC is for mixed-use commercial and residential developments. No known use or storage of hazardous materials has been identified at this time. This will be the basis of establishing a new release from an existing contamination.

### 3.4 PREVIOUS BASELINE ENVIRONMENTAL ASSESSMENTS

The City of Detroit retained Enviro Matrix to prepare a Category N BEA for the subject property. This BEA was prepared as a disclosure (BEA Number 2932), and was received by MDEQ on October 12, 2005.

### 4.0 KNOWN CONTAMINATION

The following sections present (1) known hazardous substances at the facility, (2) the criteria for defining the subject property as a facility, and (3) identification of the general locations of contamination.

#### 4.1 HAZARDOUS SUBSTANCES AT THE FACILITY

Based on the analytical results from environmental subsurface investigations conducted at the subject property, the following hazardous substances were detected above the laboratory method detection limits in samples collected from the subject property:

HAZARDOUS SUBSTANCE	CAS #	HAZARDOUS SUBSTANCE	CAS #
Benzene	71432	Ethylbenzene	100414
Toluene	108883	Xylenes	1330207
n-Butylbenzene	104518	Trichloroethylene	79016
n-Propylbenzene	103651	sec-Butylbenzene	135988
1,2,4-Trimethylbenzene	95636	Acenaphthene	83329
Acenaphthylene	208968	Anthracene	120127
Benzo (a) anthracene	56553	Fluoranthene	206440
Benzo (a) pyrene	50328	Fluorene	86737
Benzo (b) fluoranthene	205992	Indeno (1,2,3-c,d) pyrene	193395
Benzo (g,h,i) perylene	191242	Naphthalene	91203
Benzo (k) fluoranthene	207089	2-Methylnaphthalene	91576
Phenanthrene	85018	Dibenzo (a,h) anthracene	53703
Pyrene	129000	Chrysene	218019

HAZARDOUS SUBSTANCE	CAS #	HAZARDOUS SUBSTANCE	CAS #
Arsenic	7440382	Chromium (total)	16065831
Barium	7440393	Copper	7440508
Lead	7439921	Selenium	7782492
Mercury	Varies	Silver	7440224
Cadmium	7440439	Zinc	7440666

See Table 1 for a summary of soil analytical results. See Table 2 for a summary of groundwater analytical results. Refer to The attachment for a CD of previous environmental investigations.

#### 4.2 CRITERIA FOR DEFINING PROPERTY AS A FACILITY

Based on the laboratory analytical results, the following compounds were detected above applicable MDEQ Generic Residential Criteria:

HAZARDOUS SUBSTANCE	CAS #
Trichloroethylene	79016
Arsenic	7440382
Mercury	Varies
Selenium	7782492
Naphthalene	91203
Benzo(a)pyrene	50328
Fluoranthene	206440
Lead	7439921
Silver	7440224
Acenaphthene	83329
Fluorene	86737
Phenanthrene	85018

In addition, concentrations of VOCs, PNAs, and Michigan metals were detected above MDEQ GRCC during a subsurface investigation conducted in 1998. Therefore, the property meets the



definition of a 'facility' as defined by Part 201 of NREPA, Michigan PA 451, of 1994, as amended. See Table 1 for a summary of soil analytical results. See Table 2 for a summary of groundwater analytical results. Refer to The attachment for a CD of previous environmental investigations.

#### **4.3 IDENTIFICATION OF GENERAL LOCATIONS OF CONTAMINATION**

The known contamination was detected in the shallow soil and fill material, which was encountered throughout the subject property to varying depths up to approximately 25 feet below ground surface. Concentrations of trichloroethylene; PNAs (i.e., acenaphthene, benzo(a)pyrene, fluoranthene, fluorine, naphthalene, and phenanthrene); and metals (i.e, arsenic, lead, mercury, selenium, and silver) were detected in this fill material.

Groundwater was encountered at depths ranging from 2.5 to 10 feet below ground surface. Based on conditions encountered during this investigation, shallow groundwater conditions typically consisted of shallow, perched groundwater encountered in fill material above native clay. Concentrations of metals (i.e., arsenic, lead, mercury, selenium, and silver) were detected in groundwater samples.

#### **5.0 LIKELIHOOD OF OTHER CONTAMINATION**

AKT Peerless' Phase II ESA was conducted to address the recognized environmental conditions identified during the Phase I ESA and previous investigations. Several soil borings were drilled across the subject property. Soil samples were collected from these soil borings and submitted for laboratory analyses. Based on laboratory analytical results, concentrations of VOCs, PNAs, and metals were detected in the soil samples above the MDEQ Generic Residential Cleanup Criteria. In addition, concentrations of metals were detected in groundwater samples above MDEQ Generic Residential Cleanup Criteria in the fill material across the subject property. The extent of this contamination has not been defined. Further, the results of the GPR survey indicated three anomalies were detected beneath Parcel H.

Based on this information and the long industrial history of the subject property, it is possible that additional contamination is present. However, (1) the contaminant concentrations were relatively low when compared to the residential category cleanup criteria and (2) the contamination appears to be limited to the fill material. Any additional contamination present may likely be limited to fill and consistent with the low levels previously identified.

## **6.0 ALTERNATIVE APPROACHES**

No alternative approaches are proposed.

## **7.0 CONCLUSIONS**

@water Lofts, LLC retained AKT Peerless to prepare this Category N BEA for the subject property. The purpose of the BEA is to (a) provide an independent, professional evaluation and opinion regarding existing environmental conditions associated with the subject property, and (b) maintain a liability exemption for cleanup of existing contamination. As part of this BEA, AKT Peerless was retained to disclose this information to the MDEQ demonstrating that @water Lofts, LLC meets the requirements for an exemption of liability for the cleanup of existing contamination under Section 20126 (1)(c). Proposed use of the subject property satisfies @water Lofts, LLC's obligations under Section 20107a.

The future use of the property will not include the use, storage, handling, or management of significant quantities of hazardous substances, and this is the basis to distinguish potential future hazardous substance releases from contamination already existing on the property.

## **8.0 REFERENCES**

The following is a list of reference material not included in this document:

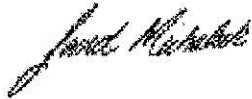
- Part 201 of the Natural Resources and Environmental Protection Act, Public Act 451 of 1994, as amended
- Part 213 of the Natural Resources and Environmental Protection Act, Public Act 451, of 1994, as amended

- MDEQ Remediation and Redevelopment Division Operational Memorandum #1, dated January 23, 2006
- MDEQ Instructions for Preparing and Disclosing Baseline Environmental Assessments and Section 7a Compliance Analyses, March 11, 1999

**9.0 SIGNATURE PAGE**

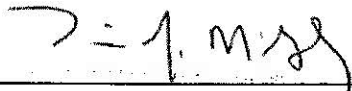
AKT Peerless Environmental Services prepared this BEA on behalf of @water Lofts, LLC for the property located at 1470 East Atwater Street (Parcel H) between Rivard and Riopelle Streets in Detroit, Michigan. AKT Peerless' scope of work is based on Section 20126(1)(c) of Part 201 of the Natural Resources and Environmental Protection Act (NREPA), 1994 PA 451, as amended, and MDEQ *Instructions for Preparing and Disclosing Baseline Environmental Assessments and Section 7a Compliance Analyses*, dated March 11, 1999.

**AKT PEERLESS ENVIRONMENTAL SERVICES**



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Janet Michaluk  
Environmental Consultant  
Environmental Engineering Services

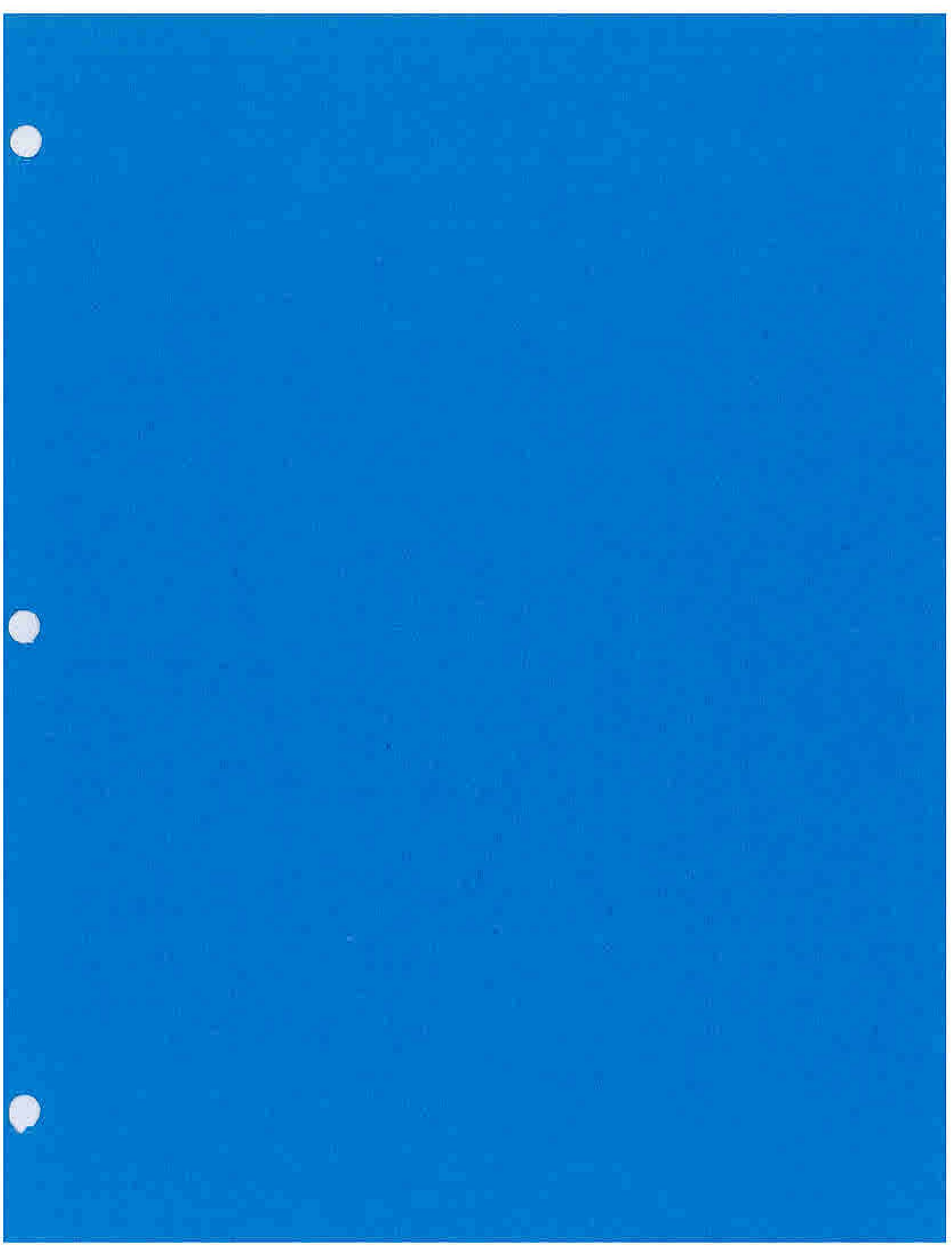


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Timothy J. McGahey, CHMM  
Senior Project Manager  
Environmental Engineering Services

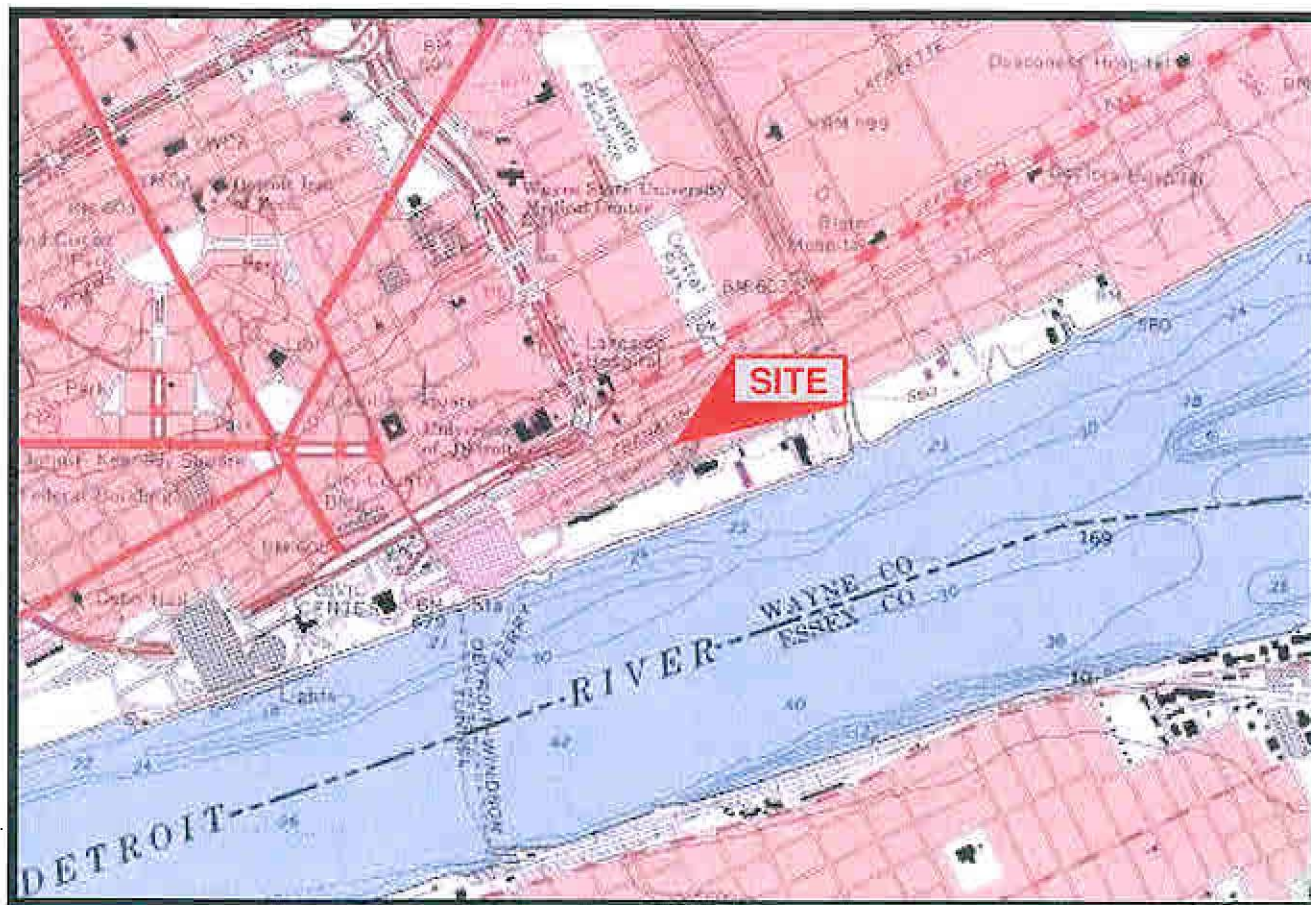
December 15, 2006



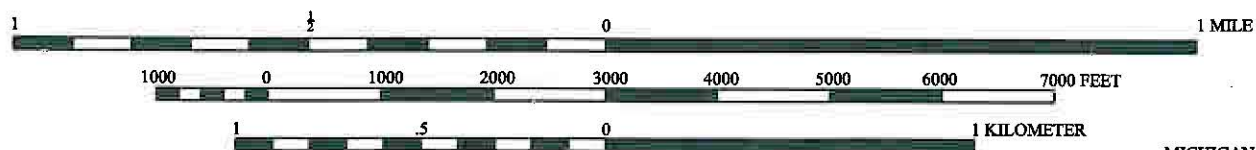


## FIGURES

**DETROIT QUADRANGLE**  
**MICHIGAN - WAYNE COUNTY**  
**7.5 MINUTE SERIES (TOPOGRAPHIC)**



T.2 S. - R.12 E.



CONTOUR INTERVAL 5 FEET  
 DATUM IS MEAN SEA LEVEL

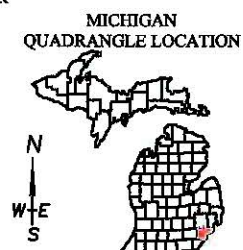


IMAGE TAKEN FROM 1968 U.S.G.S. TOPOGRAPHIC MAP  
 PHOTOREVISED 1973 AND 1980

**AKT**PEERLESS  
 environmental services

**TOPOGRAPHIC LOCATION MAP**

**@WATER LOFTS**  
 (SOUTH)

ATWATER STREET  
 DETROIT, MICHIGAN  
 PROJECT NUMBER : 5133D

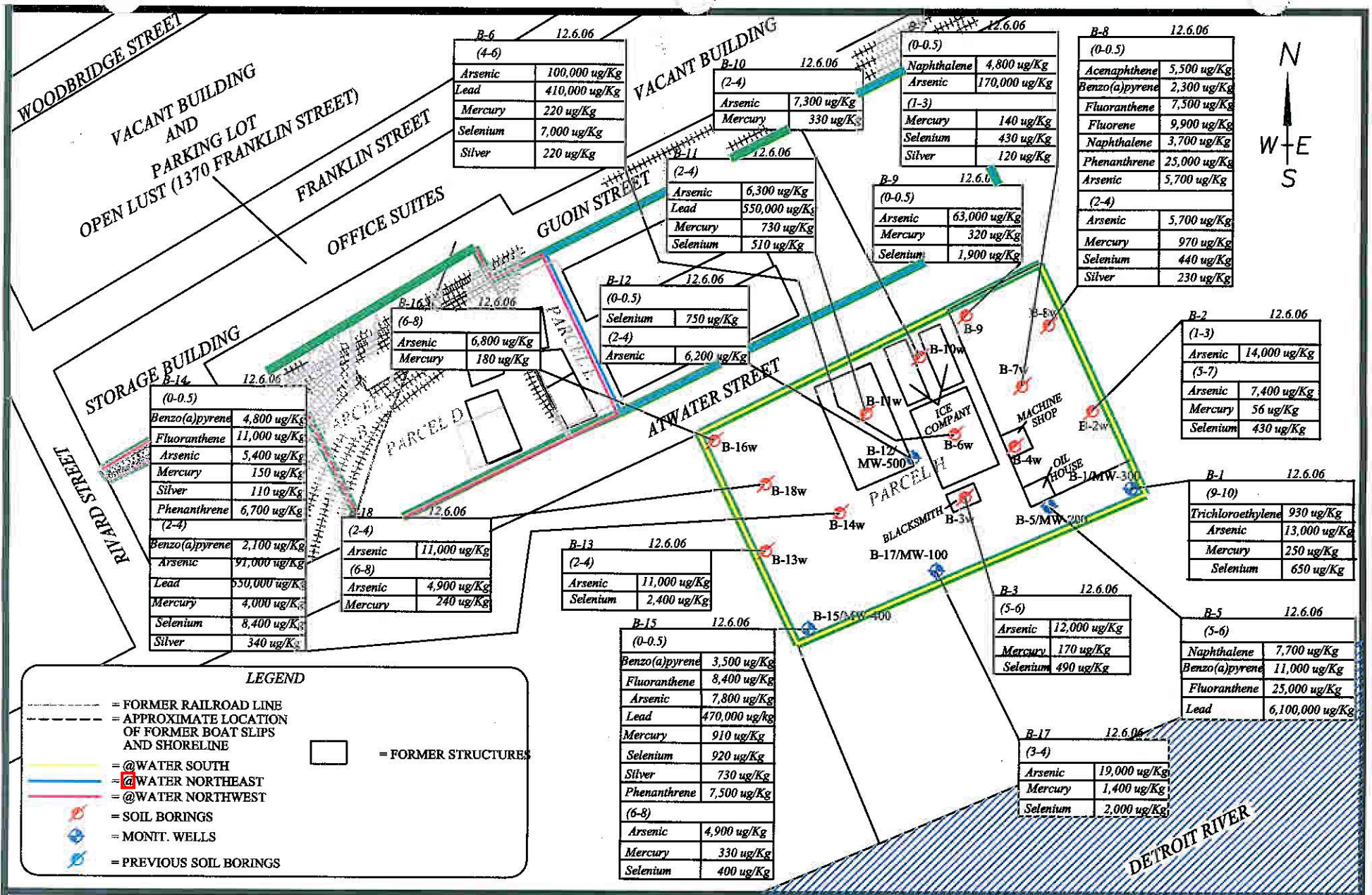
DRAWN BY: MB  
 DATE: 12.14.06

FIGURE 1









**AKTPEERLESS**  
environmental services

SITE MAP WITH SOIL ANALYTICAL  
RESULTS EXCEEDING MDEQ GRCC

@WATER LOFTS  
(SOUTH)

ATWATER STREET  
DETROIT, MICHIGAN

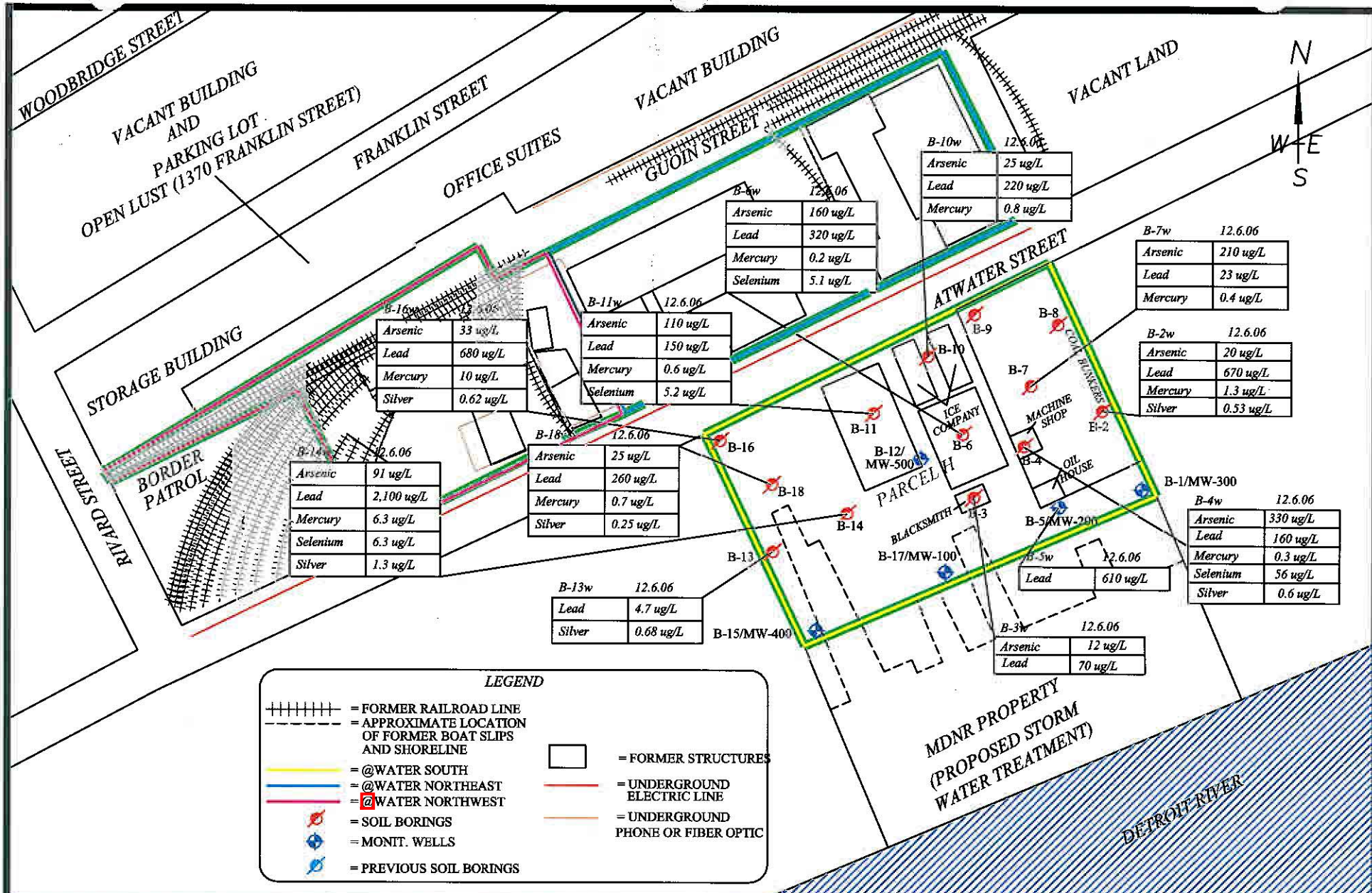
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DRAWN BY: JM  
DATE: 12.14.06

0 75 150  
SCALE: 1" = 150'±

FIGURE 3





**AKTPEERLESS**  
environmental services

SITE MAP WITH GROUNDWATER  
ANALYTICAL RESULTS EXCEEDING MDEQ GRCC

@WATER LOFTS  
(SOUTH)  
ATWATER STREET  
DETROIT, MICHIGAN

PROJECT NUMBER : 5133D

DRAWN BY: MB  
DATE: 12.14.06

0 75 150  
SCALE: 1" = 150'±

FIGURE 4



## TABLES



Table 1  
Summary of Soil Analytical Results  
Atwater Lofts  
Atwater Street  
Detroit, Michigan  
AKT Peerless Project Number  
5133D2-6-20

Sample Identification and Date		Statewide Default Background Levels	Groundwater Protection			Indoor Air	Ambient Air (Y)			Direct Contact	Groundwater Protection				Indoor Air	Ambient Air (Y)			B-1 (3-4 feet) 12.6.06	B-1 (9-10 feet) 12.6.06	B-2 (1-3 feet) 12.6.06	B-2 (5-7 feet) 12.6.06	B-3 (5-6 feet) 12.6.06	B-4 (2-4 feet) 12.6.06	
			Residential and Commercial I Drinking Water Protection Criteria & RBSLs	Residential and Commercial I Groundwater Surface Water Interface Protection Criteria & RBSLs	Residential and Commercial I Groundwater Contact Protection Criteria & RBSLs	Residential and Commercial I Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Residential and Commercial I Infinite Source Volatile Soil Inhalation Criteria (VSIC) & RBSLs	Residential and Commercial I Particulate Soil Inhalation Criteria & RBSLs	Residential and Commercial I Direct Contact Criteria & RBSLs	Residential Drinking Water Protection Criteria & RBSLs	Industrial and Commercial Drinking Water Protection Criteria & RBSLs	Groundwater Surface Water Interface Protection Criteria & RBSLs	Groundwater Contact Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Infinite Source Volatile Soil Inhalation Criteria (VSIC) & RBSLs	Particulate Soil Inhalation Criteria & RBSLs									
Analytes	CAS#																								
Volatile Organic Compounds (VOCs) (ug/Kg)																									
n-Butylbenzene	104518	NA	1,600	ID	1.2E+5	ID	ID	ID	2.5E+6	1,600	4,600	ID	1.2E+5	ID	ID	ID	ND	ND	ND	ND	ND	ND	ND	ND	
sec-Butylbenzene	135988	NA	1,600	ID	88,000	ID	ID	ID	2.5E+6	1,600	4,600	ID	88,000	ID	ID	ID	ND	ND	NA	ND	ND	ND	ND	ND	
Naphthalene	91203	NA	35,000	870	2.1E+6	2.5E+5	3.0E+5	2.0E+8	1.6E+7	35,000	1.0E+5	870	2.1E+6	4.7E+5	3.5E+5	8.8E+7	ND	ND	NA	ND	ND	ND	ND	ND	
Toluene (I)	108883	NA	16,000	2,800	2.5E+5 (C)	2.5E+5 (C)	2.8E+6	2.7E+10	2.5E+5 (C)	16,000	16,000	2,800	2.5E+5 (C)	2.5E+5 (C)	3.3E+6	1.2E+10	ND	180	NA	ND	ND	ND	ND	ND	
Trichloroethylene	79016	NA	100	4,000 (X)	4.4E+5	7,100	78,000	1.8E+9	5.0E+5 (C, D, D)	100	100	4,000 (X)	4.4E+5	37,000	2.6E+5	2.3E+9	ND	930	NA	ND	ND	ND	ND	ND	
1,2,4-Trimethylbenzene (I)	95636	NA	2,100	570	1.1E+5 (C)	1.1E+5 (C)	2.1E+7	8.2E+10	1.1E+5 (C)	2,100	2,100	570	1.1E+5 (C)	1.1E+5 (C)	2.5E+7	3.6E+10	ND	480	NA	ND	ND	ND	ND	ND	
Xylenes (I)	1330207	NA	5,600	700	1.5E+5 (C)	1.5E+5 (C)	4.6E+7	2.9E+11	1.5E+5 (C)	5,600	5,600	700	1.5E+5 (C)	1.5E+5 (C)	5.4E+7	1.3E+11	ND	340	NA	ND	ND	ND	ND	ND	
Remaining VOCs	Varies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND	ND	NA	ND	ND	ND	ND	ND	
Polynuclear Aromatic Hydrocarbons (PNAs) (ug/Kg)																									
Acenaphthene	83329	NA	3.0E+5	4,400	9.7E+5	1.9E+8	8.1E+7	1.4E+10	4.1E+7	3.0E+5	8.8E+5	4,400	9.7E+5	3.5E+8	9.7E+7	6.2E+9	NA	ND	ND	ND	ND	ND	ND	ND	
Acenaphthylene	208968	NA	5,900	ID	4.4E+5	1.6E+6	2.2E+6	2.3E+9	1.6E+6	5,900	17,000	ID	4.4E+5	3.0E+6	2.7E+6	1.0E+9	NA	ND	ND	ND	ND	ND	ND	ND	
Anthracene	120127	NA	41,000	ID	41,000	1.0E+9 (D)	1.4E+9	6.7E+10	2.3E+8	41,000	41,000	ID	41,000	1.0E+9 (D)	1.6E+9	2.9E+10	NA	ND	ND	ND	ND	ND	ND	ND	
Benzo(a)anthracene (Q)	56553	NA	NLL	NLL	NLL	NLV	NLV	ID	20,000	NLL	NLL	NLL	NLL	NLV	NLV	ID	NA	1,700	ND	ND	350	ND	ND	ND	
Benzo(a)pyrene (Q)	50328	NA	NLL	NLL	NLL	NLV	NLV	1.5E+6	2,000	NLL	NLL	NLL	NLL	NLV	NLV	1.9E+6	NA	1,800	ND	ND	ND	ND	ND	ND	
Benzo(b)fluoranthene (Q)	205992	NA	NLL	NLL	NLL	ID	ID	ID	20,000	NLL	NLL	NLL	NLL	ID	ID	ID	NA	2,200	ND	ND	730	ND	ND	ND	
Benzo(g,h,i)perylene	191242	NA	NLL	NLL	NLL	NLV	NLV	8.0E+8	2.5E+6	NLL	NLL	NLL	NLL	NLV	NLV	3.5E+8	NA	1,300	ND	ND	430	ND	ND	ND	
Benzo(k)fluoranthene (Q)	207089	NA	NLL	NLL	NLL	NLV	NLV	ID	2.0E+5	NLL	NLL	NLL	NLL	NLV	NLV	ID	NA	770	ND	ND	ND	ND	ND	ND	
Chrysene (Q)	218019	NA	NLL	NLL	NLL	ID	ID	ID	2.0E+6	NLL	NLL	NLL	NLL	ID	ID	ID	NA	2,000	ND	ND	1,000	ND	ND	ND	
Dibenzo(a,h)anthracene (Q)	53703	NA	NLL	NLL	NLL	NLV	NLV	ID	2,000	NLL	NLL	NLL	NLL	NLV	NLV	ID	NA	ND	ND	ND	ND	ND	ND	ND	
Fluoranthene	206440	NA	7.3E+5	5,500	7.3E+5	1.0E+9 (D)	7.4E+8	9.3E+9	4.6E+7	7.3E+5	7.3E+5	5,500	7.3E+5	1.0E+9 (D)	8.9E+8	4.1E+9	NA	3,800	ND	ND	ND	ND	ND	ND	
Fluorene	86737	NA	3.9E+5	5,300	8.9E+5	5.8E+8	1.3E+8	9.3E+9	2.7E+7	3.9E+5	8.9E+5	5,300	8.9E+5	1.0E+9 (D)	1.5E+8	4.1E+9	NA	ND	ND	ND	ND	ND	ND	ND	
Indeno(1,2,3-cd)pyrene (Q)	193395	NA	NLL	NLL	NLL	NLV	NLV	ID	20,000	NLL	NLL	NLL	NLL	NLV	NLV	ID	NA	1,300	ND	ND	370	ND	ND	ND	
2-Methylnaphthalene	91576	NA	57,000	ID	5.5E+6	ID	ID	ID	8.1E+6	57,000	1.7E+5	ID	5.5E+6	ID	ID	ID	NA	1,100	ND	ND	ND	ND	ND	ND	
Naphthalene	91203	NA	35,000	870	2.1E+6	2.5E+5	3.0E+5	2.0E+8	1.6E+7	35,000	1.0E+5	870	2.1E+6	4.7E+5	3.5E+5	8.8E+7	ND	ND	ND	ND	ND	ND	ND	ND	
Phenanthrene	85018	NA	56,000	5,300	1.1E+6	2.8E+6	1.6E+5	6.7E+6	1.6E+6	56,000	1.6E+5	5,300	1.1E+6	5.1E+6	1.9E+5	2.9E+6	NA	2,600	ND	ND	ND	ND	ND	ND	
Pyrene	129000	NA	4.8E+5	ID	4.8E+5	1.0E+9 (D)	6.5E+8	6.7E+9	2.9E+7	4.8E+5	4.8E+5	ID	4.8E+5	1.0E+9 (D)	7.8E+8	2.9E+9	NA	3,500	ND	ND	960	ND	ND	ND	
Total Metals Analysis (ug/Kg)																									
Arsenic	7440382	5,800	4,600	70,000 (X)	2.0E+6	NLV	NLV	7.2E+5	7,600	4,600	4,600	70,000 (X)	2.0E+6	NLV	NLV	9.1E+5	NA	13,000	14,000	7,400	12,000	2,400	ND	ND	ND
Barium (B)	7440393	75,900	1.3E+6	(G,X)	1.0E+9 (D)	NLV	NLV	3.3E+8	3.7E+7	1.3E+6	1.3E+6	(G,X)	1.0E+9 (D)	NLV	NLV	1.5E+8	NA	120,000	NA	79,000	76,000	24,000	ND	ND	ND
Cadmium (B)	7440439	1,200	6,000	(G,X)	2.3E+8	NLV	NLV	1.7E+6	5.5E+5	6,000	6,000	(G,X)	2.3E+8	NLV	NLV	2.2E+6	NA	520	NA	370	690	ND	ND	ND	ND
Chromium (total) (B,H)	16065831	18,000 (total)	1.0E+9 (D)	(G,X)	1.0E+9 (D)	NLV	NLV	3.3E+8	7.9E+8	1.0E+9 (D)	1.0E+9 (D)	(G,X)	1.0E+9 (D)	NLV	NLV	1.5E+8	NA	21,000	NA	18,000	14,000	6,100	ND	ND	ND
Copper (B)	7440508	32,000	5.8E+6	(G)	1.0E+9 (D)	NLV	NLV	1.3E+8	2.0E+7	5.8E+6	5.8E+6	(G)	1.0E+9 (D)	NLV	NLV	5.9E+7	NA	46,000	NA	18,000	51,000	3,900	ND	ND	ND
Lead (B)	7439921	21,000	7.0E+5	(G,X)	ID	NLV	NLV	1.0E+8	4.0E+5	7.0E+5	7.0E+5	(G,X)	ID	NLV	NLV	4.4E+7	NA	160,000	NA	22,000	200,000	4,200	ND	ND	ND
Mercury (Total) (B,Z)	Varies	130	1,700	50 (M); 1.2	47,000	48,000	\$2,000	2.6E+7	1.6E+5	1,700	1,700	50 (M); 1.2	47,000	89,000	62,000	8.8E+6	NA	250	NA	56	170	ND	ND	ND	ND
Selenium (B)	7782492	410	4,000	400	7.8E+7	NLV	NLV	1.3E+8	2.6E+6	4,000	4,000	400	7.8E+7	NLV	NLV	5.9E+7	NA	650	NA	430	490	ND	ND	ND	ND
Silver (B)	7440224	1,000	4,500	100 (M); 27	2.0E+8	NLV	NLV	6.7E+6	2.5E+6	4,500	13,000	100 (M); 27	2.0E+8	NLV	NLV	2.9E+6	NA	ND	NA	ND	ND	ND	ND	ND	ND
Zinc (B)	7440666	47,000	2.4E+6	(G)	1.0E+9 (D)	NLV	NLV	ID	1.7E+8	2.4E+6	5.0E+6	(G)	1.0E+9 (D)	NLV	NLV	ID	NA	120,000	NA	65,000	240,000	13,000	ND	ND	ND
Polychlorinated biphenyls (PCBs) (J,T)																									
Polychlorinated biphenyls (PCBs) (J,T)	1336363	NA	NLL	NLL	NLL	3.0E+6	2.4E+5	5.2E+6	(T)	NLL	NLL	NLL	NLL	1.6E+7	8.1E+5	6.5E+6	NA	NA	NA	ND	NA	ND	ND	ND	ND

Notes:

B - Background, as defined in R 399.5701(b), may be substituted if higher than the calculated cleanup criterion.

C - Value presented is a screening level based on the chemical-specific generic soil saturation concentration (C<sub>sat</sub>) since the calculated risk-based criterion is greater than C<sub>sat</sub>.

D - Calculated criterion exceeds 100%, hence it is reduced to 100% or 1.0E+9 ppb.

G - Groundwater surface water interface (GSI) criterion depends on the pH or water hardness, or both, of the receiving surface water.

H - Valence-specific chromium data (Cr III and Cr VI) shall be compared to the corresponding valence-specific cleanup criteria.

I - Hazardous substance may exhibit the characteristic of ignitability as defined in 40 C.F.R. Section 261.21 (revised as of July 1, 2001), which is adopted by reference in these rules and which is available for inspection.

M - Calculated criterion is below the analyticals target detection limit, therefore, the criterion defaults to the target detection limit.

Q - Criteria for carcinogenic polycyclic aromatic hydrocarbons were developed using relative potential potencies to benzo(a)pyrene.

X - The groundwater surface water interface (GSI) criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source.

ID - Insufficient data to develop criterion.

NA - Criterion or value is not available or, in the case of background and chemical abstract service numbers, not applicable.

NLL - Hazardous substance is not likely to leach under most soil conditions.

NLV - Hazardous substance is not likely to volatilize under most conditions.

ND - Non-detect

ug/Kg - micrograms per Kilogram

bold - Parameter exceeds indicated criterion



Table 1  
Summary of Soil Analytical Results  
Atwater Lofts  
Atwater Street  
Detroit, Michigan  
AKT Peerless Project Number  
5133D2-6-20

Sample Identification and Date		Statewide Default Background Levels	Groundwater Protection			Indoor Air	Ambient Air (V)		Direct Contact	Groundwater Protection				Indoor Air	Ambient Air (V)		B-3 (5-6 feet) 12.6.06	B-4 (4-6 feet) 12.6.06	B-7 (0-0.5 feet) 12.6.06	B-7 (1-3 feet) 12.6.06	B-8 (0-0.5 feet) 12.6.06
			Residential and Commercial 1 Drinking Water Protection Criteria & RBSLs	Residential and Commercial 1 Groundwater Surface Water Interface Protection Criteria & RBSLs	Residential and Commercial 1 Groundwater Contact Protection Criteria & RBSLs	Residential and Commercial 1 Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Residential and Commercial 1 Infinite Source Volatile Soil Inhalation Criteria (VSIIC) & RBSLs	Residential and Commercial 1 Particulate Soil Inhalation Criteria & RBSLs	Residential and Commercial 1 Direct Contact Criteria & RBSLs	Residential Drinking Water Protection Criteria & RBSLs	Industrial and Commercial Drinking Water Protection Criteria & RBSLs	Groundwater Surface Water Interface Protection Criteria & RBSLs	Groundwater Contact Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Infinite Source Volatile Soil Inhalation Criteria (VSIIC) & RBSLs	Particulate Soil Inhalation Criteria & RBSLs					
Analytes		CAS#																			
Volatile Organic Compounds (VOCs) (ug/Kg)																					
n-Butylbenzene	104518	NA	1,600	ID	1.2E+5	ID	ID	ID	2.5E+6	1,600	4,600	ID	1.2E+5	ID	ID	ID	ND	300	ND	ND	NA
sec-Butylbenzene	135988	NA	1,600	ID	88,000	ID	ID	ID	2.5E+6	1,600	4,600	ID	88,000	ID	ID	ID	ND	ND	ND	ND	NA
Naphthalene	91203	NA	35,000	870	2.1E+6	2.5E+5	3.0E+5	2.0E+8	1.6E+7	35,000	1.0E+5	870	2.1E+6	4.7E+5	3.5E+5	8.8E+7	7,700	ND	4,800	ND	NA
Toluene (I)	108883	NA	16,000	2,800	2.5E+5 (C)	2.5E+5 (C)	2.8E+6	2.7E+10	2.5E+5 (C)	16,000	16,000	2,800	2.5E+5 (C)	2.5E+5 (C)	3.3E+6	1.2E+10	ND	ND	ND	ND	NA
Trichloroethylene	79016	NA	100	4,000 (X)	4.4E+5	7,100	78,000	1.8E+9	5.0E+5 (C,DD)	100	100	4,000 (X)	4.4E+5	37,000	2.6E+5	2.3E+9	ND	ND	ND	ND	NA
1,2,4-Trimethylbenzene (I)	95636	NA	2,100	570	1.1E+5 (C)	1.1E+5 (C)	2.1E+7	8.2E+10	1.1E+5 (C)	2,100	2,100	570	1.1E+5 (C)	1.1E+5 (C)	2.5E+7	3.6E+10	ND	ND	ND	ND	NA
Xylenes (I)	1330207	NA	5,600	700	1.5E+5 (C)	1.5E+5 (C)	4.6E+7	2.9E+11	1.5E+5 (C)	5,600	5,600	700	1.5E+5 (C)	1.5E+5 (C)	5.4E+7	1.3E+11	ND	ND	ND	ND	NA
Remaining VOCs		Varies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND	ND	ND	ND	NA
Polynuclear Aromatic Hydrocarbons (PNAs) (ug/Kg)																					
Acenaphthene	83329	NA	3.0E+5	4,400	9.7E+5	1.9E+8	8.1E+7	1.4E+10	4.1E+7	3.0E+5	8.8E+5	4,400	9.7E+5	3.5E+8	9.7E+7	6.2E+9	2,100	NA	780	ND	5,500
Acenaphthylene	208968	NA	5,900	ID	4.4E+5	1.6E+6	2.2E+6	2.3E+9	1.6E+6	5,900	17,000	ID	4.4E+5	3.0E+6	2.7E+6	1.0E+9	460	NA	ND	ND	ND
Anthracene	120127	NA	41,000	ID	41,000	1.0E+9 (D)	1.4E+9	6.7E+10	2.3E+8	41,000	41,000	ID	41,000	1.0E+9 (D)	1.6E+9	2.9E+10	5,800	NA	1,600	ND	4,300
Benzo(a)anthracene (Q)	56553	NA	NLL	NLL	NLL	NLV	NLV	ID	20,000	NLL	NLL	NLL	NLL	NLV	NLV	ID	11,000	1,700	1,900	ND	3,100
Benzo(a)pyrene (Q)	50328	NA	NLL	NLL	NLL	NLV	NLV	1.5E+6	2,000	NLL	NLL	NLL	NLL	NLV	NLV	1.9E+6	11,000	1,500	1,700	ND	2,300
Benzo(b)fluoranthene (Q)	205992	NA	NLL	NLL	NLL	ID	ID	ID	20,000	NLL	NLL	NLL	NLL	ID	ID	ID	14,000	2,700	2,100	ND	2,600
Benzo(g,h,i)perylene	191242	NA	NLL	NLL	NLL	NLV	NLV	8.0E+8	2.5E+6	NLL	NLL	NLL	NLL	NLV	NLV	3.5E+8	6,900	1,100	530	ND	670
Benzo(k)fluoranthene (Q)	207089	NA	NLL	NLL	NLL	NLV	NLV	ID	2.0E+5	NLL	NLL	NLL	NLL	NLV	NLV	ID	4,300	820	770	ND	1,400
Chrysene (Q)	218019	NA	NLL	NLL	NLL	ID	ID	ID	2.0E+6	NLL	NLL	NLL	NLL	ID	ID	ID	11,000	2,700	1,900	ND	2,900
Dibenzo(a,h)anthracene (Q)	53703	NA	NLL	NLL	NLL	NLV	NLV	ID	2,000	NLL	NLL	NLL	NLL	NLV	NLV	ID	1,800	ND	ND	ND	ND
Fluoranthene	206440	NA	7.3E+5	5,300	7.3E+5	1.0E+9 (D)	7.4E+8	9.3E+9	4.6E+7	7.3E+5	7.3E+5	5,300	7.3E+5	1.0E+9 (D)	8.9E+8	4.1E+9	25,000	2,700	3,800	ND	7,500
Fluorene	86737	NA	3.9E+5	5,300	8.9E+5	5.8E+8	1.3E+8	9.3E+9	2.7E+7	3.9E+5	8.9E+5	5,300	8.9E+5	1.0E+9 (D)	1.5E+8	4.1E+9	2,600	ND	1,300	ND	9,900
Indeno(1,2,3-cd)pyrene (Q)	193395	NA	NLL	NLL	NLL	NLV	NLV	ID	20,000	NLL	NLL	NLL	NLL	NLV	NLV	ID	7,700	1,300	690	ND	1,700
2-Methylnaphthalene	91576	NA	57,000	ID	5.5E+6	ID	ID	ID	8.1E+6	57,000	1.7E+5	ID	5.5E+6	ID	ID	ID	620	ND	370	ND	3,500
Naphthalene	91203	NA	35,000	870	2.1E+6	2.5E+5	3.0E+5	2.0E+8	1.6E+7	35,000	1.0E+5	870	2.1E+6	4.7E+5	3.5E+5	8.8E+7	ND	ND	ND	ND	3,700
Phenanthrene	85018	NA	56,000	5,300	1.1E+6	2.3E+6	1.6E+5	6.7E+6	1.6E+6	56,000	1.6E+5	5,300	1.1E+6	5.1E+6	1.9E+5	2.9E+6	18,000	510	4,300	ND	25,000
Pyrene	129000	NA	4.8E+5	ID	4.8E+5	1.0E+9 (D)	6.5E+8	6.7E+9	2.9E+7	4.8E+5	4.8E+5	ID	4.8E+5	1.0E+9 (D)	7.8E+8	2.9E+9	21,000	3,300	2,800	ND	6,000
Total Metals Analysis (ug/Kg)																					
Arsenic	7440382	5,800	4,600	70,000 (X)	2.0E+6	NLV	NLV	7.2E+5	7,600	4,600	4,600	70,000 (X)	2.0E+6	NLV	NLV	9.1E+5	NA	100,000	170,000	4,000	5,700
Barium (B)	7440393	75,000	1.3E+6	(G,X)	1.0E+9 (D)	NLV	NLV	3.3E+8	3.7E+7	1.3E+6	1.3E+6	(G,X)	1.0E+9 (D)	NLV	NLV	1.5E+8	NA	110,000	77,000	54,000	NA
Cadmium (B)	7440439	1,200	6,000	(G,X)	2.3E+8	NLV	NLV	1.7E+6	5.5E+5	6,000	6,000	(G,X)	2.3E+8	NLV	NLV	2.2E+6	540	360	140	170	NA
Chromium (total) (B,H)	16065831	18,000 (total)	1.0E+9 (D)	(G,X)	1.0E+9 (D)	NLV	NLV	3.3E+8	7.9E+8	1.0E+9 (D)	1.0E+9 (D)	(G,X)	1.0E+9 (D)	NLV	NLV	1.5E+8	21,000	10,000	8,400	12,000	NA
Copper (B)	7440508	33,000	5.8E+6	(G)	1.0E+9 (D)	NLV	NLV	1.3E+8	2.0E+7	5.8E+6	5.8E+6	(G)	1.0E+9 (D)	NLV	NLV	5.9E+7	NA	94,000	27,000	17,000	NA
Lead (B)	7439921	21,000	7.0E+5	(G,X)	ID	NLV	NLV	1.0E+8	4.0E+8	7.0E+5	7.0E+5	(G,X)	ID	NLV	NLV	4.4E+7	6,100,000	410,000	26,000	55,000	NA
Mercury (Total) (B,Z)	Varies	130	1,700	50 (M); 1.2	47,000	48,000	52,000	2.0E+7	1.6E+5	1,700	1,700	50 (M); 1.2	47,000	89,000	62,000	8.8E+6	NA	220	ND	140	NA
Selenium (B)	7782492	410	4,000	400	7.8E+7	NLV	NLV	1.3E+8	2.6E+6	4,000	4,000	400	7.8E+7	NLV	NLV	5.9E+7	NA	7,000	3,500	430	NA
Silver (B)	7440224	1,000	4,500	100 (M); 27	2.0E+8	NLV	NLV	6.7E+6	2.5E+6	4,500	13,000	100 (M); 27	2.0E+8	NLV	NLV	2.9E+6	NA	220	ND	120	NA
Zinc (B)	7440666	47,000	2.4E+6	(G)	1.0E+9 (D)	NLV	NLV	ID	1.7E+8	2.4E+6	5.0E+6	(G)	1.0E+9 (D)	NLV	NLV	ID	NA	89,000	30,000	45,000	NA
Polychlorinated biphenyls (PCBs) (J,T)																					
Polychlorinated biphenyls (PCBs) (J,T)	1336363	NA	NLL	NLL	NLL	3.0E+6	2.4E+5	5.2E+6	(T)	NLL	NLL	NLL	NLL	1.6E+7	8.1E+5	6.5E+6	ND	NA	NA	NA	NA

Notes:

B - Background, as defined in R 299.5701(b), may be substituted if higher than the calculated cleanup criterion.

C - Value presented is a screening level based on the chemical-specific generic soil saturation concentration (C<sub>sat</sub>) since the calculated risk-based criterion is greater than C<sub>sat</sub>.

D - Calculated criterion exceeds 100%, hence it is reduced to 100% or 1.0E+9 ppb.

G - Groundwater surface water interface (GSI) criterion depends on the pH or water hardness, or both, of the receiving surface water.

H - Valence-specific chromium data (Cr III and Cr VI) shall be compared to the corresponding valence-specific cleanup criteria.

I - Hazardous substance may exhibit the characteristic of ignitability as defined in 40 C.F.R. Section 261.21 (revised as of July 1, 2001), which is adopted by reference in these rules and which is available for inspection.

M - Calculated criterion is below the analytical target detection limit, therefore, the criterion defaults to the target detection limit.

Q - Criteria for carcinogenic polycyclic aromatic hydrocarbons were developed using relative potential potencies to benzo(a)pyrene.

X - The groundwater surface water interface (GSI) criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source.

ID - Insufficient data to develop criterion.

NA - Criterion or value is not available or, in the case of background and chemical abstract service numbers, not applicable.

NLL - Hazardous substance is not likely to leach under most soil conditions.

NLV - Hazardous substance is not likely to volatilize under most conditions.

ND - Non-detect

ug/Kg - micrograms per Kilogram

bold - Parameter exceeds indicated criterion



Table 1  
Summary of Soil Analytical Results  
Atwater Lofts  
Atwater Street  
Detroit, Michigan  
AKT Peerless Project Number  
5133D2-6-20

Sample Identification and Date		Statewide Default Background Levels	Groundwater Protection			Indoor Air	Ambient Air (Y)			Direct Contact	Groundwater Protection				Indoor Air	Ambient Air (Y)			R-8 (2-4 feet) 12.6.06	R-9 (0-0.5 feet) 12.6.06	R-10 (2-4 feet) 12.6.06	R-11 (2-4 feet) 12.6.06	R-12 (0-0.5 feet) 12.6.06	
			Residential and Commercial I Drinking Water Protection Criteria & RBSLs	Residential and Commercial I Groundwater Surface Water Interface Protection Criteria & RBSLs	Residential and Commercial I Groundwater Contact Protection Criteria & RBSLs	Residential and Commercial I Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Residential and Commercial I Infinite Source Volatile Soil Inhalation Criteria (VSIC) & RBSLs	Residential and Commercial I Particulate Soil Inhalation Criteria & RBSLs	Residential and Commercial I Direct Contact Criteria & RBSLs	Residential Drinking Water Protection Criteria & RBSLs	Industrial and Commercial Drinking Water Protection Criteria & RBSLs	Groundwater Surface Water Interface Protection Criteria & RBSLs	Groundwater Contact Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Infinite Source Volatile Soil Inhalation Criteria (VSIC) & RBSLs	Particulate Soil Inhalation Criteria & RBSLs								
Analytes	CAS#																							
Volatile Organic Compounds (VOCs) (ug/Kg)																								
n-Butylbenzene	104518	NA	1,600	ID	1.2E+5	ID	ID	ID	2.5E+6	1,600	4,600	ID	1.2E+5	ID	ID	ID	ID	ND	ND	ND	ND	ND	ND	
sec-Butylbenzene	135988	NA	1,600	ID	88,000	ID	ID	ID	2.5E+6	1,600	4,600	ID	88,000	ID	ID	ID	ID	510	ND	ND	ND	ND	ND	
Naphthalene	91203	NA	35,000	870	2.1E+6	2.5E+5	3.0E+5	2.0E+8	1.6E+7	35,000	1.0E+5	870	2.1E+6	4.7E+5	3.5E+5	8.8E+7	ND	ND	ND	ND	ND	ND		
Toluene (I)	108883	NA	16,000	2,800	2.5E+5 (C)	2.5E+5 (C)	2.8E+6	2.7E+10	2.5E+5 (C)	16,000	16,000	2,800	2.5E+5 (C)	2.5E+5 (C)	3.3E+6	1.2E+10	ND	ND	ND	ND	ND	55		
Trichloroethylene	79016	NA	100	4,000 (X)	4.4E+5	7,100	78,000	1.8E+9	5.0E+5 (C,DD)	100	100	4,000 (X)	4.4E+5	37,000	2.6E+5	2.3E+9	ND	ND	ND	ND	ND	120		
1,2,4-Trimethylbenzene (I)	95636	NA	2,100	570	1.1E+5 (C)	1.1E+5 (C)	2.1E+7	8.2E+10	1.1E+5 (C)	2,100	2,100	570	1.1E+5 (C)	1.1E+5 (C)	2.5E+7	3.6E+10	ND	ND	ND	ND	ND	ND		
Xylenes (I)	1330207	NA	5,600	700	1.5E+5 (C)	1.5E+5 (C)	4.6E+7	2.9E+11	1.5E+5 (C)	5,600	5,600	700	1.5E+5 (C)	1.5E+5 (C)	5.4E+7	1.3E+11	ND	ND	ND	ND	ND	ND		
Remaining VOCs	Varies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND	ND	ND	ND	ND	ND	
Polynuclear Aromatic Hydrocarbons (PNAs) (ug/Kg)																								
Acenaphthene	83329	NA	3.0E+5	4,400	9.7E+5	1.9E+8	8.1E+7	1.4E+10	4.1E+7	3.0E+5	8.8E+5	4,400	9.7E+5	3.5E+8	9.7E+7	6.2E+9	ND	ND	ND	ND	ND	ND		
Acenaphthylene	208968	NA	5,900	ID	4.4E+5	1.6E+6	2.2E+6	2.3E+9	1.6E+6	5,900	17,000	ID	4.4E+5	3.0E+6	2.7E+6	1.0E+9	ND	ND	ND	ND	ND	ND		
Anthracene	120127	NA	41,000	ID	41,000	1.0E+9 (D)	1.4E+9	6.7E+10	2.3E+8	41,000	41,000	ID	41,000	1.0E+9 (D)	1.6E+9	2.9E+10	ND	ND	ND	ND	ND	ND		
Benzo(a)anthracene (Q)	56553	NA	NLL	NLL	NLL	NLV	NLV	ID	20,000	NLL	NLL	NLL	NLL	NLV	NLV	ID	ND	ND	ND	370	ND	ND		
Benzo(a)pyrene (Q)	50328	NA	NLL	NLL	NLL	NLV	NLV	1.5E+6	2,000	NLL	NLL	NLL	NLL	NLV	NLV	1.9E+6	ND	ND	ND	ND	ND	ND		
Benzo(b)fluoranthene (Q)	205992	NA	NLL	NLL	NLL	ID	ID	ID	20,000	NLL	NLL	NLL	NLL	ID	ID	ID	ND	ND	ND	360	ND	ND		
Benzo(g,h,i)perylene	191242	NA	NLL	NLL	NLL	NLV	NLV	8.0E+8	2.5E+6	NLL	NLL	NLL	NLL	NLV	NLV	3.5E+8	ND	ND	ND	ND	ND	ND		
Benzo(k)fluoranthene (Q)	207089	NA	NLL	NLL	NLL	NLV	NLV	ID	2.0E+5	NLL	NLL	NLL	NLL	NLV	NLV	ID	ND	ND	ND	ND	ND	ND		
Chrysene (Q)	218019	NA	NLL	NLL	NLL	ID	ID	ID	2.0E+6	NLL	NLL	NLL	NLL	ID	ID	ID	ND	ND	ND	380	ND	ND		
Dibenzo(a,h)anthracene (Q)	53703	NA	NLL	NLL	NLL	NLV	NLV	ID	2,000	NLL	NLL	NLL	NLL	NLV	NLV	ID	ND	ND	ND	ND	ND	ND		
Fluoranthene	206440	NA	7.3E+5	5,500	7.3E+5	1.0E+9 (D)	7.4E+8	9.3E+9	4.6E+7	7.3E+5	7.3E+5	5,500	7.3E+5	1.0E+9 (D)	8.9E+8	4.1E+9	ND	510	ND	650	ND	ND		
Fluorene	86737	NA	3.9E+5	5,300	8.9E+5	5.8E+8	1.3E+8	9.3E+9	2.7E+7	3.9E+5	8.9E+5	5,300	8.9E+5	1.0E+9 (D)	1.5E+8	4.1E+9	ND	ND	ND	ND	ND	ND		
Indeno(1,2,3-cd)pyrene (Q)	193395	NA	NLL	NLL	NLL	NLV	NLV	ID	20,000	NLL	NLL	NLL	NLL	NLV	NLV	ID	ND	ND	ND	ND	ND	ND		
2-Methylnaphthalene	91576	NA	57,000	ID	5.5E+6	ID	ID	ID	8.1E+6	57,000	1.7E+5	ID	5.5E+6	ID	ID	ID	ND	ND	ND	ND	ND	ND		
Naphthalene	91203	NA	35,000	870	2.1E+6	2.5E+5	3.0E+5	2.0E+8	1.6E+7	35,000	1.0E+5	870	2.1E+6	4.7E+5	3.5E+5	8.8E+7	ND	ND	ND	ND	ND	ND		
Phenanthrene	85018	NA	56,000	5,300	1.1E+6	2.8E+6	1.6E+5	6.7E+6	1.6E+6	56,000	1.6E+5	5,300	1.1E+6	5.1E+6	1.9E+5	2.9E+6	ND	ND	ND	450	ND	ND		
Pyrene	129000	NA	4.8E+5	ID	4.8E+5	1.0E+9 (D)	6.5E+8	6.7E+9	2.9E+7	4.8E+5	4.8E+5	ID	4.8E+5	1.0E+9 (D)	7.8E+8	2.9E+9	ND	450	ND	690	ND	ND		
Total Metals Analysis (ug/Kg)																								
Arsenic	7440382	5,800	4,600	70,000 (X)	2.0E+6	NLV	NLV	7.2E+5	7,600	4,600	4,600	70,000 (X)	2.0E+6	NLV	NLV	9.1E+5	5,700	63,000	7,300	6,300	3,300	3,300		
Barium (B)	7440393	78,600	1.3E+6	(G,X)	1.0E+9 (D)	NLV	NLV	3.3E+8	3.7E+7	1.3E+6	1.3E+6	(G,X)	1.0E+9 (D)	NLV	NLV	1.5E+8	40,000	92,000	120,000	100,000	40,000	40,000		
Cadmium (B)	7440439	1,200	6,000	(G,X)	2.3E+8	NLV	NLV	1.7E+6	5.5E+5	6,000	6,000	(G,X)	2.3E+8	NLV	NLV	2.2E+6	180	480	320	160	150	150		
Chromium (total) (B,H)	16065831	10,000 (total)	1.0E+9 (D)	(G,X)	1.0E+9 (D)	NLV	NLV	3.3E+8	7.9E+8	1.0E+9 (D)	1.0E+9 (D)	(G,X)	1.0E+9 (D)	NLV	NLV	1.5E+8	8,700	19,000	12,000	9,800	7,400	7,400		
Copper (B)	7440508	32,000	5.8E+6	(G)	1.0E+9 (D)	NLV	NLV	1.3E+8	2.0E+7	5.8E+6	5.8E+6	(G)	1.0E+9 (D)	NLV	NLV	5.9E+7	26,000	50,000	21,000	81,000	18,000	18,000		
Lead (B)	7439921	21,000	7.0E+5	(G,X)	ID	NLV	NLV	1.0E+8	4.0E+5	7.0E+5	7.0E+5	(G,X)	ID	NLV	NLV	4.4E+7	69,000	69,000	41,000	550,000	37,000	37,000		
Mercury (Total) (B,Z)	Varies	130	1,700	50 (M); 1.2	47,000	48,000	52,000	2.0E+7	1.6E+5	1,700	1,700	50 (M); 1.2	47,000	89,000	62,000	8.8E+6	970	320	330	730	ND	ND		
Selenium (B)	7782492	410	4,000	400	7.8E+7	NLV	NLV	1.3E+8	2.6E+6	4,000	4,000	400	7.8E+7	NLV	NLV	5.9E+7	440	1,900	ND	510	750	750		
Silver (B)	7440224	1,000	4,500	100 (M); 27	2.0E+8	NLV	NLV	6.7E+6	2.5E+6	4,500	13,000	100 (M); 27	2.0E+8	NLV	NLV	2.9E+6	230	ND	ND	140	ND	ND		
Zinc (B)	7440666	47,000	2.4E+6	(G)	1.0E+9 (D)	NLV	NLV	ID	1.7E+8	2.4E+6	5.0E+6	(G)	1.0E+9 (D)	NLV	NLV	ID	69,000	83,000	130,000	130,000	3,700	3,700		
Polychlorinated biphenyls (PCBs) (J,T)																								
Polychlorinated biphenyls (PCBs) (J,T)	1336363	NA	NLL	NLL	NLL	3.0E+6	2.4E+5	5.2E+6	(T)	NLL	NLL	NLL	NLL	1.6E+7	8.1E+5	6.5E+6	ND	ND	NA	NA	NA	NA		

Notes:

B - Background, as defined in R 299.5701(b), may be substituted if higher than the calculated cleanup criterion.

C - Value presented is a screening level based on the chemical-specific generic soil saturation concentration (C<sub>sat</sub>) since the calculated risk-based criterion is greater than C<sub>sat</sub>.

D - Calculated criterion exceeds 100%, hence it is reduced to 100% or 1.0E+9 ppb.

G - Groundwater surface water interface (GSI) criterion depends on the pH or water hardness, or both, of the receiving surface water.

H - Valence-specific chromium data (Cr III and Cr VI) shall be compared to the corresponding valence-specific cleanup criteria.

I - Hazardous substance may exhibit the characteristic of ignitability as defined in 40 C.F.R. Section 261.21 (revised as of July 1, 2001), which is adopted by reference in these rules and which is available for inspection.

M - Calculated criterion is below the analyticals target detection limit; therefore, the criterion defaults to the target detection limit.

Q - Criteria for carcinogenic polycyclic aromatic hydrocarbons were developed using relative potential potencies to benzo(a)pyrene.

X - The groundwater surface water interface (GSI) criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source.

ID - Insufficient data to develop criterion.

NA - Criterion or value is not available or, in the case of background and chemical abstract service numbers, not applicable.

NLL - Hazardous substance is not likely to leach under most soil conditions.

NLV - Hazardous substance is not likely to volatilize under most conditions.

ND - Non-detect

ug/Kg - micrograms per Kilogram

bold - Parameter exceeds indicated criterion



Table 1  
Summary of Soil Analytical Results  
Atwater Lofts  
Atwater Street  
Detroit, Michigan  
AKT Peerless Project Number  
5133D2-6-20

Sample Identification and Date		Statewide Default Background Levels	Groundwater Protection			Indoor Air	Ambient Air (V)			Direct Contact	Groundwater Protection				Indoor Air	Ambient Air (V)			R-12 (2-4 feet) 12.6.06	R-13 (2-4 feet) 12.6.06	R-14 (0-0.5 feet) 12.6.06	R-14 (2-4 feet) 12.6.06	R-15 (0-0.5 feet) 12.6.06
			Residential and Commercial I Drinking Water Protection Criteria & RBSLs	Residential and Commercial I Groundwater Surface Water Interface Protection Criteria & RBSLs	Residential and Commercial I Groundwater Contact Protection Criteria & RBSLs	Residential and Commercial I Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Residential and Commercial I Infinite Source Volatile Soil Inhalation Criteria (VSIC) & RBSLs	Residential and Commercial I Particulate Soil Inhalation Criteria & RBSLs	Residential and Commercial I Direct Contact Protection Criteria & RBSLs	Residential Drinking Water Protection Criteria & RBSLs	Industrial and Commercial Drinking Water Protection Criteria & RBSLs	Groundwater Surface Water Interface Protection Criteria & RBSLs	Groundwater Contact Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Infinite Source Volatile Soil Inhalation Criteria (VSIC) & RBSLs	Particulate Soil Inhalation Criteria & RBSLs							
Analytes	CAS#																						
Volatile Organic Compounds (VOCs) (ug/Kg)																							
n-Butylbenzene	104518	NA	1,600	ID	1.2E+5	ID	ID	ID	2.5E+6	1,600	4,600	ID	1.2E+5	ID	ID	ID	ND	ND	ND	ND	ND		
sec-Butylbenzene	135988	NA	1,600	ID	88,000	ID	ID	ID	2.5E+6	1,600	4,600	ID	88,000	ID	ID	ID	ND	ND	ND	ND	ND		
Naphthalene	91203	NA	35,000	870	2.1E+6	2.5E+5	3.0E+5	2.0E+8	1.6E+7	35,000	1.0E+5	870	2.1E+6	4.7E+5	3.5E+5	8.8E+7	ND	ND	ND	ND	ND		
Toluene (I)	108883	NA	16,000	2,800	2.5E+5 (C)	2.5E+5 (C)	2.8E+6	2.7E+10	2.5E+5 (C)	16,000	16,000	2,800	2.5E+5 (C)	2.5E+5 (C)	3.3E+6	1.2E+10	ND	ND	ND	ND	ND		
Trichloroethylene	79016	NA	100	4,000 (X)	4.4E+5	7,100	78,000	1.8E+9	5.0E+5 (C,DD)	100	100	4,000 (X)	4.4E+5	37,000	2.6E+5	2.3E+9	ND	ND	ND	ND	ND		
1,2,4-Trimethylbenzene (I)	95636	NA	2,100	570	1.1E+5 (C)	1.1E+5 (C)	2.1E+7	8.2E+10	1.1E+5 (C)	2,100	2,100	570	1.1E+5 (C)	1.1E+5 (C)	2.5E+7	3.6E+10	ND	ND	ND	ND	ND		
Xylenes (I)	1330207	NA	5,600	700	1.5E+5 (C)	1.5E+5 (C)	4.6E+7	2.9E+11	1.5E+5 (C)	5,600	5,600	700	1.5E+5 (C)	1.5E+5 (C)	5.4E+7	1.3E+11	ND	ND	ND	ND	ND		
Remaining VOCs	Varies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND	ND	ND	ND	ND		
Polynuclear Aromatic Hydrocarbons (PNAs) (ug/Kg)																							
Acenaphthene	83329	NA	3.0E+5	4,400	9.7E+5	1.9E+8	8.1E+7	1.4E+10	4.1E+7	3.0E+5	8.8E+5	4,400	9.7E+5	3.5E+8	9.7E+7	6.2E+9	ND	ND	500	440	680		
Acenaphthylene	208968	NA	5,900	ID	4.4E+5	1.6E+6	2.2E+6	2.3E+9	1.6E+6	5,900	17,000	ID	4.4E+5	3.0E+6	2.7E+6	1.0E+9	ND	ND	ND	ND	ND		
Anthracene	120127	NA	41,000	ID	41,000	1.0E+9 (D)	1.4E+9	6.7E+10	2.3E+8	41,000	41,000	ID	41,000	1.0E+9 (D)	1.6E+9	2.9E+10	ND	ND	2,100	770	1,700		
Benzo(a)anthracene (Q)	56553	NA	NLL	NLL	NLL	NLV	NLV	ID	20,000	NLL	NLL	NLL	NLL	NLV	NLV	ID	ND	ND	4,800	2,200	3,500		
Benzo(a)pyrene (Q)	50328	NA	NLL	NLL	NLL	NLV	NLV	1.5E+6	2,000	NLL	NLL	NLL	NLL	NLV	NLV	1.9E+6	ND	ND	4,800	2,100	3,500		
Benzo(b)fluoranthene (Q)	205992	NA	NLL	NLL	NLL	ID	ID	ID	20,000	NLL	NLL	NLL	NLL	ID	ID	ID	ND	ND	6,100	3,100	4,100		
Benzo(g,h,i)perylene	191242	NA	NLL	NLL	NLL	NLV	NLV	8.0E+8	2.5E+6	NLL	NLL	NLL	NLL	NLV	NLV	3.5E+8	ND	ND	2,100	370	1,400		
Benzo(k)fluoranthene (Q)	207089	NA	NLL	NLL	NLL	NLV	NLV	ID	2.0E+5	NLL	NLL	NLL	NLL	NLV	NLV	ID	ND	ND	2,600	990	1,500		
Chrysene (Q)	218019	NA	NLL	NLL	NLL	ID	ID	ID	2.0E+6	NLL	NLL	NLL	NLL	ID	ID	ID	ND	ND	5,300	2,300	3,900		
Dibenzo(a,h)anthracene (Q)	53703	NA	NLL	NLL	NLL	NLV	NLV	ID	2,000	NLL	NLL	NLL	NLL	NLV	NLV	ID	ND	ND	510	ND	330		
Fluoranthene	206440	NA	7.3E+5	5,500	7.3E+5	1.0E+9 (D)	7.4E+8	9.3E+9	4.0E+7	7.3E+5	7.3E+5	5,500	7.3E+5	1.0E+9 (D)	8.9E+8	4.1E+9	ND	ND	11,000	3,400	8,400		
Fluorene	86737	NA	3.9E+5	5,300	8.9E+5	5.8E+8	1.3E+8	9.3E+9	2.7E+7	3.9E+5	8.9E+5	5,300	8.9E+5	1.0E+9 (D)	1.5E+8	4.1E+9	ND	ND	680	ND	800		
Indeno(1,2,3-cd)pyrene (Q)	193395	NA	NLL	NLL	NLL	NLV	NLV	ID	20,000	NLL	NLL	NLL	NLL	NLV	NLV	ID	ND	ND	2,400	580	1,600		
2-Methylnaphthalene	91576	NA	57,000	ID	5.5E+6	ID	ID	ID	8.1E+6	57,000	1.7E+5	ID	5.5E+6	ID	ID	ID	ND	ND	ND	ND	ND		
Naphthalene	91203	NA	35,000	870	2.1E+6	2.5E+5	3.0E+5	2.0E+8	1.6E+7	35,000	1.0E+5	870	2.1E+6	4.7E+5	3.5E+5	8.8E+7	ND	ND	ND	ND	ND		
Phenanthrene	85018	NA	56,000	5,300	1.1E+6	2.8E+6	1.6E+5	6.7E+6	1.6E+6	56,000	1.6E+5	5,300	1.1E+6	5.1E+6	1.9E+5	2.9E+6	ND	340	6,700	2,100	7,500		
Pyrene	129000	NA	4.8E+5	ID	4.8E+5	1.0E+9 (D)	6.5E+8	6.7E+9	2.9E+7	4.8E+5	4.8E+5	ID	4.8E+5	1.0E+9 (D)	7.8E+8	2.9E+9	ND	ND	8,100	3,500	6,600		
Total Metals Analysis (ug/Kg)																							
Arsenic	7440382	5,800	4,600	70,000 (X)	2.0E+6	NLV	NLV	7.7E+5	7,600	4,600	4,600	70,000 (X)	2.0E+6	NLV	NLV	9.1E+5	6,200	11,000	5,400	91,000	7,800		
Barium (B)	7440393	75,000	1.3E+6	(G,X)	1.0E+9 (D)	NLV	NLV	3.3E+8	3.7E+7	1.3E+6	1.3E+6	(G,X)	1.0E+9 (D)	NLV	NLV	1.5E+8	77,000	210,000	68,000	42,000	150,000		
Cadmium (B)	7440439	1,200	6,000	(G,X)	2.3E+8	NLV	NLV	1.7E+6	5.5E+5	6,000	6,000	(G,X)	2.3E+8	NLV	NLV	2.2E+6	160	130	260	3,000	460		
Chromium (total) (B,H)	16065831	18,000 (total)	1.0E+9 (D)	(G,X)	1.0E+9 (D)	NLV	NLV	3.3E+8	7.9E+8	1.0E+9 (D)	1.0E+9 (D)	(G,X)	1.0E+9 (D)	NLV	NLV	1.5E+8	12,000	22,000	8,800	12,000	15,000		
Copper (B)	7440508	32,000	5.8E+6	(G)	1.0E+9 (D)	NLV	NLV	1.3E+8	2.0E+7	5.8E+6	5.8E+6	(G)	1.0E+9 (D)	NLV	NLV	5.9E+7	16,000	30,000	140,000	820,000	170,000		
Lead (B)	7439921	21,000	7.0E+5	(G,X)	ID	NLV	NLV	1.0E+8	4.0E+5	7.0E+5	7.0E+5	(G,X)	ID	NLV	NLV	4.4E+7	30,000	22,000	100,000	550,000	470,000		
Mercury (Total) (B,Z)	Varies	130	1,700	50 (M), 1,2	47,000	48,000	52,000	2.0E+7	1.6E+5	1,700	1,700	50 (M), 1,2	47,000	89,000	62,000	8.8E+6	ND	ND	150	4,000	910		
Selenium (B)	7782492	410	4,000	400	7.8E+7	NLV	NLV	1.3E+8	2.6E+6	4,000	4,000	400	7.8E+7	NLV	NLV	5.9E+7	220	2,400	350	8,400	920		
Silver (B)	7440224	1,000	4,500	100 (M), 27	2.0E+8	NLV	NLV	6.7E+6	2.5E+6	4,500	13,000	100 (M), 27	2.0E+8	NLV	NLV	2.9E+6	ND	ND	110	340	730		
Zinc (B)	7440666	47,000	2.4E+6	(G)	1.0E+9 (D)	NLV	NLV	ID	1.7E+8	2.4E+6	5.0E+6	(G)	1.0E+9 (D)	NLV	NLV	ID	75,000	35,000	110,000	990,000	210,000		
Polychlorinated biphenyls (PCBs) (J,T)																							
Polychlorinated biphenyls (PCBs) (J,T)	1336363	NA	NLL	NLL	NLL	3.0E+6	2.4E+5	5.2E+6	(T)	NLL	NLL	NLL	NLL	1.6E+7	8.1E+5	6.5E+6	ND	NA	NA	NA	NA		

Notes:

B - Background, as defined in R 299.5701(b), may be substituted if higher than the calculated cleanup criterion.

C - Value presented is a screening level based on the chemical-specific generic soil saturation concentration (Csat) since the calculated risk-based criterion is greater than Csat.

D - Calculated criterion exceeds 100%, hence it is reduced to 100% or 1.0E+9 ppb.

G - Groundwater surface water interface (GSD) criterion depends on the pH or water hardness, or both, of the receiving surface water.

H - Valence-specific chromium data (Cr III and Cr VI) shall be compared to the corresponding valence-specific cleanup criteria.

I - Hazardous substance may exhibit the characteristic of ignitability as defined in 40 C.F.R. Section 261.21 (revised as of July 1, 2001), which is adopted by reference in these rules and which is available for inspection.

M - Calculated criterion is below the analyticals target detection limit, therefore, the criterion defaults to the target detection limit.

Q - Criteria for carcinogenic polycyclic aromatic hydrocarbons were developed using relative potential potencies to benzo(a)pyrene.

X - The groundwater surface water interface (GSD) criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source.

ID - Insufficient data to develop criterion.

NA - Criterion or value is not available or, in the case of background and chemical abstract service numbers, not applicable.

NLL - Hazardous substance is not likely to leach under most soil conditions.

NLV - Hazardous substance is not likely to volatilize under most conditions.

ND - Non-detect

µg/Kg - micrograms per Kilogram

bold - Parameter exceeds indicated criterion

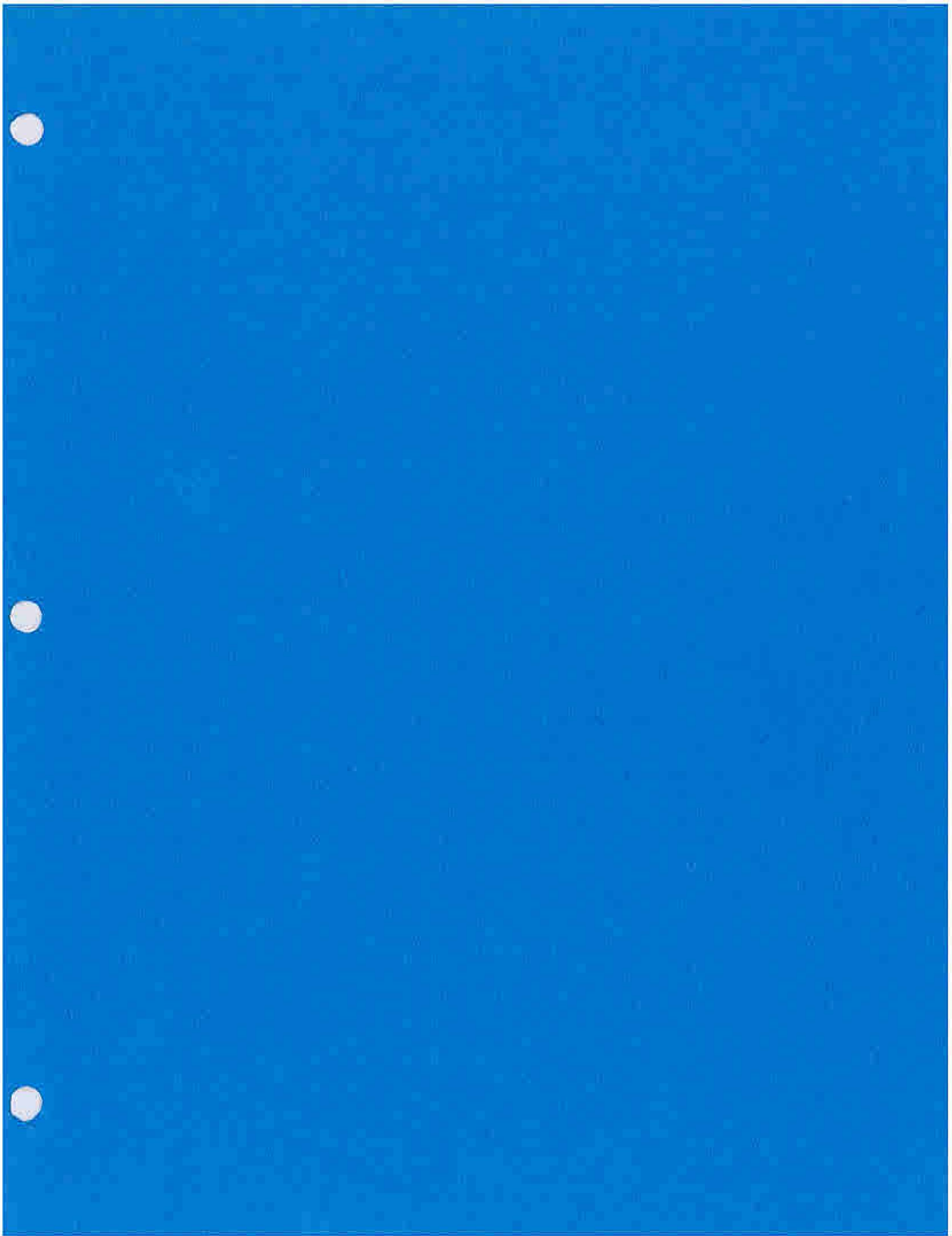


Table 1  
Summary of Soil Analytical Results  
Atwater Lofts  
Atwater Street  
Detroit, Michigan  
AKT Peerless Project Number  
513D2-6-20

Sample Identification and Date		Statewide Default Background Levels	Groundwater Protection			Indoor Air	Ambient Air (V)		Direct Contact	Groundwater Protection				Indoor Air	Ambient Air (V)		B-15 (6-8 feet) 12.6.06	B-16 (6-8 feet) 12.6.06	B-17 (3-4 feet) 12.6.06	B-17 (8-10 feet) 12.6.06	B-18 (2-4 feet) 12.6.06	B-18 (6-8 feet) 12.6.06
			Residential and Commercial 1 Drinking Water Protection Criteria & RBSLs	Residential and Commercial 1 Groundwater Surface Water Interface Protection Criteria & RBSLs	Residential and Commercial 1 Groundwater Contact Protection Criteria & RBSLs	Residential and Commercial 1 Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Residential and Commercial 1 Infinite Source Volatile Soil Inhalation Criteria (VSI) & RBSLs	Residential and Commercial 1 Particulate Soil Inhalation Criteria & RBSLs	Residential and Commercial 1 Direct Contact Criteria & RBSLs	Residential Drinking Water Protection Criteria & RBSLs	Industrial and Commercial Drinking Water Protection Criteria & RBSLs	Groundwater Surface Water Interface Protection Criteria & RBSLs	Groundwater Contact Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Infinite Source Volatile Soil Inhalation Criteria (VSI) & RBSLs	Particulate Soil Inhalation Criteria & RBSLs						
Analytes	CAS#																					
Volatile Organic Compounds (VOCs) (ug/Kg)																						
n-Butylbenzene	104518	NA	1,600	ID	1.2E+5	ID	ID	ID	2.5E+6	1,600	4,600	ID	1.2E+5	ID	ID	ID	ND	ND	ND	ND	ND	
sec-Butylbenzene	135988	NA	1,600	ID	88,000	ID	ID	ID	2.5E+6	1,600	4,600	ID	88,000	ID	ID	ID	ND	ND	ND	ND	ND	
Naphthalene	91203	NA	35,000	870	2.1E+6	2.5E+5	3.0E+5	2.0E+8	1.6E+7	35,000	1.0E+5	870	2.1E+6	4.7E+5	3.5E+5	8.8E+7	ND	ND	1,700	ND	ND	
Toluene (I)	108883	NA	16,000	2,800	2.5E+5 (C)	2.5E+5 (C)	2.8E+6	2.7E+10	2.5E+5 (C)	16,000	16,000	2,800	2.5E+5 (C)	2.5E+5 (C)	3.3E+6	1.2E+10	ND	ND	170	ND	ND	
Trichloroethylene	79016	NA	100	4,000 (X)	4.4E+5	7,100	78,000	1.8E+9	5.0E+5 (C,DD)	100	100	4,000 (X)	4.4E+5	37,000	2.6E+5	2.3E+9	ND	ND	ND	ND	ND	
1,2,4-Trimethylbenzene (I)	95636	NA	2,100	570	1.1E+5 (C)	1.1E+5 (C)	2.1E+7	8.2E+10	1.1E+5 (C)	2,100	2,100	570	1.1E+5 (C)	1.1E+5 (C)	2.5E+7	3.6E+10	ND	ND	150	ND	ND	
Xylenes (I)	1330207	NA	5,600	700	1.5E+5 (C)	1.5E+5 (C)	4.6E+7	2.9E+11	1.5E+5 (C)	5,600	5,600	700	1.5E+5 (C)	1.5E+5 (C)	5.4E+7	1.3E+11	ND	ND	430	ND	ND	
Remaining VOCs	Varies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND	ND	ND	ND	ND	
Polynuclear Aromatic Hydrocarbons (PNAs) (ug/Kg)																						
Acenaphthene	83329	NA	3.0E+5	4,400	9.7E+5	1.9E+8	8.1E+7	1.4E+10	4.1E+7	3.0E+5	8.8E+5	4,400	9.7E+5	3.5E+8	9.7E+7	6.2E+9	ND	ND	ND	ND	ND	
Acenaphthylene	208968	NA	5,900	ID	4.4E+5	1.6E+6	2.2E+6	2.3E+9	1.6E+6	5,900	17,000	ID	4.4E+5	3.0E+6	2.7E+6	1.0E+9	ND	ND	ND	ND	ND	
Anthracene	120127	NA	41,000	ID	41,000	1.0E+9 (D)	1.4E+9	6.7E+10	2.3E+8	41,000	41,000	ID	41,000	1.0E+9 (D)	1.6E+9	2.9E+10	ND	ND	580	ND	ND	
Benzo(a)anthracene (Q)	56553	NA	NLL	NLL	NLL	NLV	NLV	ID	20,000	NLL	NLL	NLL	NLL	NLV	NLV	ID	ND	ND	940	ND	ND	
Benzo(a)pyrene (Q)	50328	NA	NLL	NLL	NLL	NLV	NLV	1.5E+6	2,000	NLL	NLL	NLL	NLL	NLV	NLV	1.9E+6	ND	ND	800	ND	ND	
Benzo(b)fluoranthene (Q)	205992	NA	NLL	NLL	NLL	ID	ID	ID	20,000	NLL	NLL	NLL	NLL	ID	ID	ID	ND	ND	920	ND	ND	
Benzo(g,h,i)perylene	191242	NA	NLL	NLL	NLL	NLV	NLV	8.0E+8	2.5E+6	NLL	NLL	NLL	NLL	NLV	NLV	3.5E+8	ND	ND	460	ND	ND	
Benzo(k)fluoranthene (Q)	207089	NA	NLL	NLL	NLL	NLV	NLV	ID	2.0E+5	NLL	NLL	NLL	NLL	NLV	NLV	ID	ND	ND	330	ND	ND	
Chrysene (Q)	218019	NA	NLL	NLL	NLL	ID	ID	ID	2.0E+6	NLL	NLL	NLL	NLL	ID	ID	ID	ND	ND	960	ND	ND	
Dibenz(a,h)anthracene (Q)	53703	NA	NLL	NLL	NLL	NLV	NLL	NLL	2,000	NLL	NLV	NLL	NLL	NLV	NLV	ID	ND	ND	ND	ND	ND	
Fluoranthene	206440	NA	7.3E+5	5,500	7.3E+5	1.0E+9 (D)	7.4E+8	9.3E+9	4.6E+7	7.3E+5	7.3E+5	5,500	7.3E+5	1.0E+9 (D)	8.9E+8	4.1E+9	ND	ND	2,100	ND	ND	
Fluorene	86737	NA	3.9E+5	5,300	8.9E+5	5.8E+8	1.3E+8	9.3E+9	2.7E+7	3.9E+5	8.9E+5	5,300	8.9E+5	1.0E+9 (D)	1.5E+8	4.1E+9	ND	ND	ND	ND	ND	
Indeno(1,2,3-cd)pyrene (Q)	193395	NA	NLL	NLL	NLL	NLV	NLL	ID	20,000	NLL	NLL	NLL	NLL	NLV	NLV	ID	ND	ND	470	ND	ND	
2-Methylnaphthalene	91576	NA	57,000	ID	5.5E+6	ID	ID	ID	8.1E+6	57,000	1.7E+5	ID	5.5E+6	ID	ID	ID	ND	ND	800	ND	ND	
Naphthalene	91203	NA	35,000	870	2.1E+6	2.5E+5	3.0E+5	2.0E+8	1.6E+7	35,000	1.0E+5	870	2.1E+6	4.7E+5	3.5E+5	8.8E+7	ND	ND	ND	ND	ND	
Phenanthrene	85018	NA	56,000	5,300	1.1E+6	2.8E+6	1.6E+5	6.7E+6	1.6E+6	56,000	1.6E+5	5,300	1.1E+6	5.1E+6	1.9E+5	2.9E+6	ND	ND	2,100	ND	ND	
Pyrene	129000	NA	4.8E+5	ID	4.8E+5	1.0E+9 (D)	6.5E+8	6.7E+9	2.9E+7	4.8E+5	4.8E+5	ID	4.8E+5	1.0E+9 (D)	7.8E+8	2.9E+9	ND	ND	1,900	ND	ND	
Total Metals Analysis (ug/Kg)																						
Arsenic	7440382	5,800	4,600	70,000 (X)	2.0E+6	NLV	NLV	7.2E+5	7,600	4,600	4,600	70,000 (X)	2.0E+6	NLV	NLV	9.1E+5	4,900	6,800	19,000	3,700	11,000	
Barium (B)	7440393	78,000	1.3E+6	(G,X)	1.0E+9 (D)	NLV	NLV	3.3E+8	3.7E+7	1.3E+6	1.3E+6	(G,X)	1.0E+9 (D)	NLV	NLV	1.5E+8	69,000	79,000	72,000	47,000	63,000	
Cadmium (B)	7440439	1,200	6,000	(G,X)	2.3E+8	NLV	NLV	1.7E+6	5.5E+5	6,000	6,000	(G,X)	2.3E+8	NLV	NLV	2.2E+6	80	150	350	130	180	
Chromium (total) (B,H)	16065831	18,000 (total)	1.0E+9 (D)	(G,X)	1.0E+9 (D)	NLV	NLV	3.3E+8	7.9E+8	1.0E+9 (D)	1.0E+9 (D)	(G,X)	1.0E+9 (D)	NLV	NLV	1.5E+8	18,000	12,000	8,000	14,000	19,000	
Copper (B)	7440508	32,000	5.8E+6	(G)	1.0E+9 (D)	NLV	NLV	1.3E+8	2.0E+7	5.8E+6	5.8E+6	(G)	1.0E+9 (D)	NLV	NLV	5.9E+7	16,000	22,000	56,000	15,000	21,000	
Lead (B)	7439921	21,000	7.0E+5	(G,X)	ID	NLV	NLV	1.0E+8	4.0E+5	7.0E+5	7.0E+5	(G,X)	ID	NLV	NLV	4.4E+7	27,000	84,000	100,000	13,000	14,000	
Mercury (Total) (B,Z)	Varies	150	1,700	50 (M), 1.2	47,000	48,000	52,000	2.0E+7	1.6E+5	1,700	1,700	50 (M), 1.2	47,000	89,000	62,000	8.8E+6	330	180	1,400	51	ND	
Selenium (B)	7782492	410	4,000	400	7.8E+7	NLV	NLV	1.3E+8	2.6E+6	4,000	4,000	400	7.8E+7	NLV	NLV	5.9E+7	400	340	2,000	240	370	
Silver (B)	7440224	1,000	4,500	100 (M), 27	2.0E+8	NLV	NLV	6.7E+6	2.3E+6	4,500	13,000	100 (M), 27	2.0E+8	NLV	NLV	2.9E+6	ND	ND	ND	ND	ND	
Zinc (B)	7440666	47,000	2.4E+6	(G)	1.0E+9 (D)	NLV	NLV	ID	1.7E+8	2.4E+6	5.0E+6	(G)	1.0E+9 (D)	NLV	NLV	ID	49,000	56,000	160,000	45,000	56,000	
Polychlorinated biphenyls (PCBs) (J,T)																						
Polychlorinated biphenyls (PCBs) (J,T)	1336363	NA	NLL	NLL	NLL	3.0E+6	2.4E+5	5.2E+6	(T)	NLL	NLL	NLL	NLL	1.6E+7	8.1E+5	6.5E+6	NA	NA	NA	NA	NA	

Notes:

- B - Background, as defined in R 299.5701(b), may be substituted if higher than the calculated cleanup criterion.
- C - Value presented is a screening level based on the chemical-specific generic soil saturation concentration (C<sub>sat</sub>) since the calculated risk-based criterion is greater than C<sub>sat</sub>.
- D - Calculated criterion exceeds 100%, hence it is reduced to 100% or 1.0E+9 ppb.
- G - Groundwater surface water interface (GSI) criterion depends on the pH or water hardness, or both, of the receiving surface water.
- H - Valence-specific chromium data (Cr III and Cr VI) shall be compared to the corresponding valence-specific cleanup criteria.
- I - Hazardous substance may exhibit the characteristic of ignitability as defined in 40 C.F.R. Section 261.21 (revised as of July 1, 2001), which is adopted by reference in these rules and which is available for inspection.
- M - Calculated criterion is below the analyticals target detection limit, therefore, the criterion defaults to the target detection limit.
- Q - Criteria for carcinogenic polycyclic aromatic hydrocarbons were developed using relative potential potencies to benzo(a)pyrene.
- X - The groundwater surface water interface (GSI) criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source.
- ID - Insufficient data to develop criterion.
- NA - Criterion or value is not available or, in the case of background and chemical abstract service numbers, not applicable.
- NLL - Hazardous substance is not likely to leach under most soil conditions.
- NLV - Hazardous substance is not likely to volatilize under most conditions.
- ND - Non-detect
- ug/Kg - micrograms per Kilogram</





Note 2  
 Summary of Groundwater Analytical Results  
 Atwater Lofis  
 Atwater Street  
 Detroit, Michigan  
 AKT Peerless Project Number  
 5133D2-6-20

Sample Identification and Date		Residential & Commercial I Drinking Water Criteria & RBSLs	Industrial & Commercial II, III & IV Drinking Water Criteria & RBSLs	Groundwater Surface Water Interface Criteria & RBSLs	Residential & Commercial I Groundwater Volatilization to Indoor Air Inhalation Criteria & RBSLs	Industrial & Commercial II, III & IV Groundwater Volatilization to Indoor Air Inhalation Criteria & RBSLs	Groundwater Contact Criteria & RBSLs	B-2W 12/6/2006	B-3W 12/6/2006	B-4W 12/6/2006	B-5W 12/6/2006	B-6W 12/6/2006	B-7W 12/6/2006
Analytes	CAS#												
<b>Volatile Organic Compounds (VOCs) (ug/L)</b>													
Benzene (I)	71432	5.0 (A)	5.0 (A)	200 (X)	5,600	35,000	11,000	ND	ND	ND	ND	ND	4.9
n-Butylbenzene	104518	80	230	ID	ID	ID	5,900	ND	ND	ND	ND	ND	2.2
sec-Butylbenzene	135988	80	230	ID	ID	ID	4,400	ND	ND	ND	ND	ND	1.7
n-Propylbenzene (I)	103651	80	230	ID	ID	ID	15,000	ND	ND	ND	ND	ND	5.4
Toluene (I)	108883	790 (E)	790 (E)	140	5.3E+5 (S)	5.3E+5 (S)	5.3E+5 (S)	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene (I)	95636	63 (E)	63 (E)	17	56,000 (S)	56,000 (S)	56,000 (S)	ND	ND	ND	ND	ND	ND
Remaining VOCs	-	-	-	-	-	-	-	ND	ND	ND	ND	ND	ND
<b>Polynuclear Aromatic Hydrocarbons (PNAs) (ug/L)</b>													
Fluoranthene	206440	210 (S)	210 (S)	1.6	210 (S)	210 (S)	210 (S)	ND	ND	ND	ND	ND	1.3
Remaining PNAs								ND	ND	ND	ND	ND	ND
<b>Total Metals Analysis (ug/L)</b>													
Arsenic	7440382	10 (A)	10 (A)	150 (X)	NLV	NLV	4,300	20	12	330	NA	160	210
Barium (B)	7440393	2,000 (A)	2,000 (A)	(G,X)	NLV	NLV	1.4E+7	520	ND	460	NA	180	140
Cadmium (B)	7440439	5.0 (A)	5.0 (A)	(G,X)	NLV	NLV	1.9E+5	ND	ND	1.1	1.5	ND	ND
Chromium (III) (B,H)	16065831	100 (A)	100 (A)	(G,X)	NLV	NLV	2.9E+8	15	ND	62	76	10	11
Copper (B)	7440508	1,000 (E)	1,000 (E)	(G)	NLV	NLV	7.4E+6	94	32	110	NA	110	15
Lead (B)	7439921	4.0 (L)	4.0 (L)	(G,X)	NLV	NLV	ID	670	70	160	610	320	23
Mercury (Total) (B,Z)	Varies	2.0 (A)	2.0 (A)	0.001 (G)	56 (S)	56 (S)	56 (S)	1.3	ND	0.3	NA	0.2	0.4
Selenium (B)	7782492	50 (A)	50 (A)	5.0	NLV	NLV	9.7E+5	ND	ND	56	NA	5.1	ND
Silver (B)	7440224	34	98	0.3 (M); 0.06 (G)	NLV	NLV	1.5E+6	0.53	ND	0.6	NA	ND	ND
Zinc (B)	7440666	2,400	5,000 (E)	(G)	NLV	NLV	1.1E+8	310	230	230	NA	140	67
Polychlorinated Biphenyls (ug/L)								NA	NA	NA	ND	NA	NA

A - Criterion is the state of Michigan drinking water standard established pursuant to section 5 of 1976 PA 399, MCL 325.1005.

B - Background, as defined in R 299.5701(b), may be substituted if higher than the calculated cleanup criterion.

G - Groundwater surface water interface (GSI) criterion depends on the pH or water hardness, or both, of the receiving surface water.

H - Valence-specific chromium data (Cr III and Cr VI) shall be compared to the corresponding valence-specific cleanup criteria.

I - Hazardous substance may exhibit the characteristic of ignitability as defined in 40 C.F.R. Section 261.21 (revised as of July 1, 2001), which is adopted by reference in these rules and which is available for inspection at the Lansing office of the department, 525 West Allegan Street, Lansing, Michigan.

L - Criteria for lead are derived using a biologically based model, as allowed for under section 20120a(10) of the act, and are not calculated using the algorithms and assumptions specified in pathway-specific rules.

M - Calculated criterion is below the analyticals target detection limit, therefore, the criterion defaults to the target detection limit.

Q - Criteria for carcinogenic polycyclic aromatic hydrocarbons were developed using relative potential potencies to benzo(a)pyrene.

S - Criterion defaults to the hazardous substance-specific water solubility limit.

Z - Mercury is typically measured as total mercury.

AA - Comparison to these criteria may take into account an evaluation of whether the hazardous substances are absorbed to particulates rather than dissolved in water and whether filtered groundwater samples were used to evaluate groundwater.

ID - Insufficient data to develop criterion.

NLV - Hazardous substance is not likely to volatilize under most conditions.

ND - Non-detect

ug/Kg - micrograms per Kilogram

bold - Parameter exceeds indicated criterion

**Table 2**  
**Summary of Groundwater Analytical Results**  
 Atwater Lofts  
 Atwater Street  
 Detroit, Michigan  
 AKT Peerless Project Number  
 5133D2-6-20

Sample Identification and Date		Residential & Commercial I Drinking Water Criteria & RBSLs	Industrial & Commercial II, III & IV Drinking Water Criteria & RBSLs	Groundwater Surface Water Interface Criteria & RBSLs	Residential & Commercial I Groundwater Volatilization to Indoor Air Inhalation Criteria & RBSLs	Industrial & Commercial II, III & IV Groundwater Volatilization to Indoor Air Inhalation Criteria & RBSLs	Groundwater Contact Criteria & RBSLs	B-10W 12/6/2006	B-11W 12/6/2006	B-13W 12/6/2006	B-14W 12/6/2006	B-16W 12/6/2006
Analyses	CAS#											
<b>Volatile Organic Compounds (VOCs) (ug/L)</b>												
Benzene (I)	71432	5.0 (A)	5.0 (A)	200 (X)	5,600	35,000	11,000	ND	ND	ND	ND	ND
n-Butylbenzene	104518	80	230	ID	ID	ID	5,900	ND	ND	ND	ND	ND
sec-Butylbenzene	135988	80	230	ID	ID	ID	4,400	ND	ND	ND	ND	ND
n-Propylbenzene (I)	103651	80	230	ID	ID	ID	15,000	ND	ND	ND	ND	ND
Toluene (I)	108883	790 (E)	790 (E)	140	5.3E+5 (S)	5.3E+5 (S)	5.3E+5 (S)	ND	ND	1.6	ND	ND
1,2,4-Trimethylbenzene (I)	95636	63 (E)	63 (E)	17	56,000 (S)	56,000 (S)	56,000 (S)	ND	ND	1.5	ND	ND
Remaining VOCs	-	-	-	-	-	-	-	ND	ND	ND	ND	ND
<b>Polynuclear Aromatic Hydrocarbons (PNAs) (ug/L)</b>												
Fluoranthene	206440	210 (S)	210 (S)	1.6	210 (S)	210 (S)	210 (S)	ND	ND	ND	ND	ND
Remaining PNAs	-	-	-	-	-	-	-	ND	ND	ND	ND	ND
<b>Total Metals Analysis (ug/L)</b>												
Arsenic	7440382	10 (A)	10 (A)	150 (X)	NLV	NLV	4,300	25	110	ND	91	33
Barium (B)	7440393	2,000 (A)	2,000 (A)	(G,X)	NLV	NLV	1.4E+7	ND	130	990	1500	1100
Cadmium (B)	7440439	5.0 (A)	5.0 (A)	(G,X)	NLV	NLV	1.9E+5	ND	ND	ND	1.8	ND
Chromium (III) (B,H)	16065831	100 (A)	100 (A)	(G,X)	NLV	NLV	2.9E+8	15	20	ND	43	39
Copper (B)	7440508	1,000 (E)	1,000 (E)	(G)	NLV	NLV	7.4E+6	110	92	5.4	450	150
Lead (B)	7439921	4.0 (L)	4.0 (L)	(G,X)	NLV	NLV	ID	220	150	4.7	2100	680
Mercury (Total) (B,Z)	Varies	2.0 (A)	2.0 (A)	0.001 (S)	56 (S)	56 (S)	56 (S)	0.8	0.6	ND	6.3	10
Selenium (B)	7782492	50 (A)	50 (A)	5.0 (M)	NLV	NLV	9.7E+5	ND	5.2	ND	6.3	ND
Silver (B)	7440224	34	98	0.2 (M)	NLV	NLV	1.5E+6	ND	ND	0.68	1.3	0.62
Zinc (B)	7440666	2,400	5,000 (E)	(G)	NLV	NLV	1.1E+8	210	160	220	1600	370
<b>Polychlorinated Biphenyls (ug/L)</b>								NA	NA	NA	NA	NA

A - Criterion is the state of Michigan drinking water standard established pursuant to section 5 of 1976 PA 399, MCL 325.1005.

B - Background, as defined in R 299.5701(b), may be substituted if higher than the calculated cleanup criterion.

G - Groundwater surface water interface (GSI) criterion depends on the pH or water hardness, or both, of the receiving surface water.

H - Valence-specific chromium data (Cr III and Cr VI) shall be compared to the corresponding valence-specific cleanup criteria.

I - Hazardous substance may exhibit the characteristic of ignitability as defined in 40 C.F.R. Section 261.21 (revised as of July 1, 2001), which is adopted by reference in these rules and which is available for inspection at the Lansing office of the department, 525 West Allegan Street, Lansing, Michigan.

L - Criteria for lead are derived using a biologically based model, as allowed for under section 20120a(10) of the act, and are not calculated using the algorithms and assumptions specified in pathway-specific rules.

M - Calculated criterion is below the analyticals target detection limit, therefore, the criterion defaults to the target detection limit.

Q - Criteria for carcinogenic polycyclic aromatic hydrocarbons were developed using relative potential potencies to benzo(a)pyrene.

S - Criterion defaults to the hazardous substance-specific water solubility limit.

Z - Mercury is typically measured as total mercury.

AA - Comparison to these criteria may take into account an evaluation of whether the hazardous substances are absorbed to particulates rather than dissolved in water and whether filtered groundwater samples were used to evaluate groundwater.

ID - Insufficient data to develop criterion.

NLV - Hazardous substance is not likely to volatilize under most conditions.

ND - Non-detect

mg/Kg - micrograms per Kilogram

bold - Parameter exceeds indicated criterion



Appendix 2  
 Summary of Groundwater Analytical Results  
 Atwater Lofts  
 Atwater Street  
 Detroit, Michigan  
 AKT Peerless Project Number  
 5133D2-6-20

Sample Identification and Date		Residential & Commercial I Drinking Water Criteria & RBSLs	Industrial & Commercial II, III & IV Drinking Water Criteria & RBSLs	Groundwater Surface Water Interface Criteria & RBSLs	Residential & Commercial I Groundwater Volatilization to Indoor Air Inhalation Criteria & RBSLs	Industrial & Commercial II, III & IV Groundwater Volatilization to Indoor Air Inhalation Criteria & RBSLs	Groundwater Contact Criteria & RBSLs	B-17W 12/11/2006	B-18W 12/6/2006
<b>Analytes</b>	<b>CAS#</b>								
<b>Volatile Organic Compounds (VOCs) (ug/L)</b>									
Benzene (I)	71432	5.0 (A)	5.0 (A)	200 (X)	5,600	35,000	11,000	ND	ND
n-Butylbenzene	104518	80	230	ID	ID	ID	5,900	ND	ND
sec-Butylbenzene	135988	80	230	ID	ID	ID	4,400	ND	ND
n-Propylbenzene (I)	103651	80	230	ID	ID	ID	15,000	ND	ND
Toluene (I)	108883	790 (E)	790 (E)	140	5.3E+5 (S)	5.3E+5 (S)	5.3E+5 (S)	ND	ND
1,2,4-Trimethylbenzene (I)	95636	63 (E)	63 (E)	17	56,000 (S)	56,000 (S)	56,000 (S)	ND	ND
Remaining VOCs	-	-	-	-	-	-	-	ND	ND
<b>Polynuclear Aromatic Hydrocarbons (PNAs) (ug/L)</b>									
Fluoranthene	206440	210 (S)	210 (S)	1.6	210 (S)	210 (S)	210 (S)	ND	ND
Remaining PNAs	-	-	-	-	-	-	-	ND	ND
<b>Total Metals Analysis (ug/L)</b>									
Arsenic	7440382	10 (A)	10 (A)	150 (X)	NLV	NLV	4,300	NA	25
Barium (B)	7440393	2,000 (A)	2,000 (A)	(G,X)	NLV	NLV	1.4E+7	NA	440
Cadmium (B)	7440439	5.0 (A)	5.0 (A)	(G,X)	NLV	NLV	1.9E+5	NA	ND
Chromium (III) (B,H)	16065831	100 (A)	100 (A)	(G,X)	NLV	NLV	2.9E+8	NA	23
Copper (B)	7440508	1,000 (E)	1,000 (E)	(G)	NLV	NLV	7.4E+6	NA	35
Lead (B)	7439921	4.0 (L)	4.0 (L)	(G,X)	NLV	NLV	ID	NA	260
Mercury (Total) (B,Z)	Varies	2.0 (A)	2.0 (A)	0.0013	56 (S)	56 (S)	56 (S)	NA	0.7
Selenium (B)	7782492	50 (A)	50 (A)	5.0	NLV	NLV	9.7E+5	NA	ND
Silver (B)	7440224	34	98	0.2 (M); 0.66	NLV	NLV	1.5E+6	NA	0.25
Zinc (B)	7440666	2,400	5,000 (E)	(G)	NLV	NLV	1.1E+8	NA	110
<b>Polychlorinated Biphenyls (ug/L)</b>		-	-	-	-	-	-	NA	NA

Notes:

- A - Criterion is the state of Michigan drinking water standard established pursuant to section 5 of 1976 PA 399, MCL 325.1005.
- B - Background, as defined in R 299.5701(b), may be substituted if higher than the calculated cleanup criterion.
- G - Groundwater surface water interface (GSI) criterion depends on the pH or water hardness, or both, of the receiving surface water.
- H - Valence-specific chromium data (Cr III and Cr VI) shall be compared to the corresponding valence-specific cleanup criteria.
- I - Hazardous substance may exhibit the characteristic of ignitability as defined in 40 C.F.R. Section 261.21 (revised as of July 1, 2001), which is adopted by reference in these rules and which is at the Lansing office of the department, 525 West Allegan Street, Lansing, Michigan.
- L - Criteria for lead are derived using a biologically based model, as allowed for under section 20120a(10) of the act, and are not calculated using the algorithms and assumptions specified in part M.
- M - Calculated criterion is below the analyticals target detection limit, therefore, the criterion defaults to the target detection limit.
- Q - Criteria for carcinogenic polycyclic aromatic hydrocarbons were developed using relative potential potencies to benzo(a)pyrene.
- S - Criterion defaults to the hazardous substance-specific water solubility limit.
- Z - Mercury is typically measured as total mercury.
- AA - Comparison to these criteria may take into account an evaluation of whether the hazardous substances are absorbed to particulates rather than dissolved in water and whether filtered ground.
- ID - Insufficient data to develop criterion.
- NLV - Hazardous substance is not likely to volatilize under most conditions.
- ND - Non-detect
- mg/Kg - micrograms per Kilogram
- bold - Parameter exceeds indicated criterion



**APPENDIX A**

**AKT Peerless' October 2006 Phase I ESA**



**PHASE I ENVIRONMENTAL SITE ASSESSMENT  
PROPOSED @WATER LOFTS DEVELOPMENT  
ATWATER STREET  
DETROIT, MICHIGAN 48207**

*prepared for*

**DETROIT/WAYNE COUNTY PORT AUTHORITY  
8109 EAST JEFFERSON AVENUE  
DETROIT, MICHIGAN, 48214**

**AKT PEERLESS PROJECT NO. 5133D-1-17  
OCTOBER 31, 2006**



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**APPENDICES**

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**PHASE I ENVIRONMENTAL SITE ASSESSMENT**

**PROPOSED @WATER LOFTS DEVELOPMENT**

**ATWATER STREET**

**DETROIT, MICHIGAN 48214**

**AKT PEERLESS PROJECT No. 5133D-1-17**

**1.0 INTRODUCTION**

Detroit/Wayne County Port Authority (DWCPA) retained AKT Peerless Environmental Services (AKT Peerless) to conduct a Phase I Environmental Site Assessment (ESA) of eight, vacant parcels located on Atwater Street between Rivard and Riopelle Streets in Detroit, Wayne County, Michigan (subject property). Refer to Section 3.1 for a detailed description of the subject property parcels.

DWCPA was awarded United States Environmental Protection Agency (USEPA) Brownfield Assessment Grants to conduct environmental assessments of petroleum and hazardous substance sites. This Phase I ESA was conducted as part of the Hazardous Substance Assessment Grant on behalf of DWCPA and Belmar Development (Belmar). Belmar plans to redevelop the subject property with three, multi-story residential loft buildings with associated commercial tenant spaces. This Phase I ESA was conducted in accordance with (1) the United States Environmental Protection Agency (USEPA) Standards and Practices for All Appropriate Inquiries [(AAI), 40 CFR Part 312] and (2) guidelines established by the American Society for Testing and Materials (ASTM) in the *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process / Designation E 1527-05* (ASTM Standard Practice E 1527-05).

**1.1 PURPOSE**

The purpose of this Phase I ESA was to evaluate the current and historical conditions of the subject property in an effort to identify *recognized environmental conditions* (RECs)<sup>1</sup> and *historical recognized environmental conditions* (HRECs)<sup>2</sup> in connection with the subject property. Moreover, certain users of this Phase I ESA may be able to satisfy one of the environmental due diligence requirements to qualify for the innocent landowner defense to liability under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 and the Superfund Amendments and Reauthorization Act (SARA). This Phase I ESA is intended to reduce, but not eliminate, uncertainty regarding the potential for RECs and HRECs in connection with the subject property.

<sup>1</sup> ASTM's Standard Practice E 1527-00 defines the term recognized environmental condition as the presence or likely presence of any hazardous substance or petroleum product on a property under conditions that indicate (1) an existing release, (2) a past release, or (3) a material threat of a release of a hazardous substance or petroleum product into structures on the subject property or into the ground, groundwater, or surface water of the subject property.

<sup>2</sup> ASTM defines the term historical recognized environmental condition (HREC) as an environmental condition which in the past would have been considered an REC, but which may or may not be considered an REC currently. The term is not intended to include de minimis conditions that generally do not present a material risk of harm to public health or the environment and would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.



## **1.2 SCOPE OF SERVICES**

AKT Peerless' scope-of-services is based on its proposal PD-7085, dated June 14, 2006, and the terms and conditions of that agreement. This Phase I ESA included the following:

- an inquiry of environmental conditions by an environmental professional.
- a review of specialized knowledge reported by the Client.
- a review of public and historical records, including those maintained by federal, state, tribal, and local government agencies.
- interviews with regulatory officials and personnel associated or knowledgeable with the subject property, including as appropriate past and present owners, or neighbors if the property is abandoned.
- a reconnaissance of the subject property and adjoining properties.

## **1.3 PROJECT RESOURCES**

AKT Peerless referred to the following resources between July 5, 2006 and October 31, 2006 to complete its ESA:

- United States Environmental Protection Agency (USEPA), Region 5
- United States Geological Survey (USGS)
- United States Department of Agriculture (USDA) Soil Conservation Service
- Michigan Department of Environmental Quality (MDEQ)
- Wayne County Environmental Health Department
- Detroit Health Department
- Detroit Government Sources (e.g., assessing, building, fire, engineering departments, etc.)
- Terraserver ([www.terraserverusa.com](http://www.terraserverusa.com))
- MapTech ([www.maptech.com](http://www.maptech.com))
- Southwest Michigan Council of Government (SEMCOG)
- Environmental Data Resources, Inc. (EDR)
- City Directories
- Interviews and Questionnaire Responses

## **1.4 SIGNIFICANT ASSUMPTIONS**

During this Phase I ESA, AKT Peerless made the following significant assumptions:

- AKT Peerless assumed that the information provided by EDR in the regulatory database report is an accurate and complete representative summary of the information contained in the referenced regulatory agency records, except when such information is obviously contradicted by other data.
- AKT Peerless assumed that the information used to prepare this assessment that was obtained from ostensibly knowledgeable individuals, regulatory agency representatives, or other

secondary sources was an accurate and complete representative summary of the information possessed by those individuals, representatives, or sources.

## **1.5 LIMITATIONS AND EXCEPTIONS**

A list of general limitations and exceptions typically encountered when completing Phase I ESAs is provided in Appendix A. Along with the inherent limitations set forth in various sections of ASTM Standard Practice E 1527-00, the accuracy and completeness of this report may also be limited by the following project specific facts or conditions:

- Visual observations of the Parcels A through G (northern parcels) were limited by the presence of heavy vegetation.
- AKT Peerless attempted to contact Mr. Michael Dempsey, Project manager of the Detroit Economic Growth Corporation. However, at the completion of this ESA, AKT Peerless' has not received a response from Mr. Dempsey.
- AKT Peerless Freedom of Information (FOI) response from the MDEQ RRD indicates that a MDEQ file for the subject property does not exist. However, two of the subject property parcels (Parcel H and Parcel F) were listed on the Leaking Underground Storage Tank (LUST) database. This gap in historical information is considered *data failure* as provided in Section 7.3.2.3 of the ASTM Standard Practice For ESAs (E 1527).
- AKT Peerless' review of readily available standard and other historical sources provided only limited information regarding utilities associated with the former industrial buildings present on the subject property from between 1884 until the 2000s. This gap in historical information is considered *data failure* as provided in Section 7.3.2.3 of the ASTM Standard Practice For ESAs (E 1527).

Subject to the general limitations and exceptions listed in Appendix A and the referenced terms and conditions, AKT Peerless accepts responsibility for the competent performance of its duties in executing this assignment and preparing this report in accordance with the normal standards of the profession, but disclaims any responsibility for consequential damages.

Should additional information become available to the Client that differs significantly from our understanding of conditions presented in this report, AKT Peerless requests that such information be forwarded immediately to our attention so that we may reassess the conclusions provided herein and amend this project's scope of services as necessary and appropriate.

## **1.6 SPECIAL TERMS AND CONDITIONS**

To the best of AKT Peerless' knowledge, no special terms or conditions apply to the preparation of this Phase I ESA.

## **1.7 USER RELIANCE**

AKT Peerless performed this Phase I ESA for the benefit of the Client. AKT Peerless acknowledges that this party may rely on the contents and conclusions presented in this report. Unless stated otherwise in writing, AKT Peerless makes no other warranty, representation, or extension of reliance upon the findings of this report to any other entity or third party.



## **2.0 USER PROVIDED INFORMATION**

AKT Peerless submitted a questionnaire to the Client (User) requesting information about the subject property and this Phase I ESA. At this time, AKT Peerless has not received the completed questionnaire. However, AKT Peerless conducted interviews with Mr. Dwight Belyue of Belmar Development (User). The following subsections summarize the information Mr. Belyue provided to AKT Peerless.

### **2.1 TITLE RECORDS**

The Client did not provide recorded land title records to AKT Peerless.

### **2.2 ENVIRONMENTAL LIENS OR ACTIVITY AND USE LIMITATIONS**

The Client did not report knowledge of (1) environmental liens against the subject property, or (2) activity and use limitations, including institutional controls.

### **2.3 SPECIALIZED KNOWLEDGE**

The Client did not report specialized knowledge or experience that is material to identifying environmental concerns in connection with the subject property, except as conveyed during interviews and/or in the following reports, which respectively document previous environmental investigations of the subject property:

- Phase I Environmental Site Assessment, prepared in May 1999 by Environmental Consulting and Technology Inc. (ECT) on behalf of The City of Detroit.
- Phase II Environmental Site Assessment, prepared in 1999 by ECT on behalf of the City of Detroit.
- Phase II Environmental Site Assessment, prepared in May 1999 by Roy F. Weston Inc. (Weston) on behalf of The City of Detroit.
- Updated Phase II Environmental Site Assessment, prepared in June 2005 by Enviro-Matrix (EM) on behalf of Economic Development Corporation, City of Detroit.
- Baseline Environmental Assessment, prepared in June 2005 by EM on behalf of the City of Detroit.

The contents of the previous environmental reports are summarized and discussed in Section 4.4.5.

### **2.4 VALUATION REDUCTION FOR ENVIRONMENTAL ISSUES**

The Client did not report knowledge of, or reason to anticipate, a reduction in the value of the subject property for environmental issues

### **2.5 REASON FOR PERFORMING THIS PHASE I ESA**

According to the Client, this Phase I ESA was conducted as part of environmental due diligence related to the Client's purchase and redevelopment of the subject property.



### **3.0 SUBJECT PROPERTY DESCRIPTION**

#### **3.1 LOCATION AND LEGAL DESCRIPTION**

The subject property is situated on the northern and southern side of E. Atwater Street between Riopelle and Rivard Streets in Detroit, Wayne County, Michigan. It consists of eight vacant rectangular-shaped parcels. For ease of reference in this report, AKT Peerless has designated each of the subject property parcels with a letter. These designations do not correspond to any legally recorded data pertaining to the subject property. The following table presents additional information regarding the subject property.

<b>Parcel</b>	<b>Address</b>	<b>Tax Identification Number</b>	<b>Owner of Record</b>	<b>Approximate Acreage</b>
A	1364 Franklin	5/000016	City of Detroit P&DD	0.34
B	1365 E. Atwater	5/000010	City of Detroit P&DD	0.22
C	1370 Guoin Street	5/000012	City of Detroit P&DD	0.10
D	1325 E. Atwater	5/000009	City of Detroit P&DD	0.71
E	1399 E. Atwater	5/000011	City of Detroit P&DD	0.29
F	1461-1469 E. Atwater	7/000007	City of Detroit P&DD	1.39
G	1471 E. Atwater	7/000008	City of Detroit P&DD	2.48
H	1470 E. Atwater Street	7/000005	City of Detroit P&DD	4.91

Refer to Figure 1, Subject Property Location Map; Figure 2, Topographic Location; Figure 3, Assessor's Parcel Map; Figure 4, Subject Property Map, and Figure 4A, Subject Property REC Map. The legal descriptions of the subject property are presented in Appendix B. Photographs taken during AKT Peerless' subject property reconnaissance are provided in Appendix C.

#### **3.2 SUBJECT PROPERTY AND VICINITY CHARACTERISTICS**

The subject property is currently vacant land consisting of some vegetative areas. Although currently vacant, a foundation associated with a former building is located on Parcel E. The subject property is located in an area of Detroit that is characterized by residential, commercial, and industrial property.

#### **3.3 DESCRIPTION OF STRUCTURES AND OTHER IMPROVEMENTS**

There are no structures on the subject property.

#### **3.4 CURRENT USE OF THE SUBJECT PROPERTY**

The subject property is currently vacant and not used for any specific purpose.

#### **3.5 UTILITIES AND MUNICIPAL SERVICES**

AKT Peerless identified the type and supplier of utilities and municipal services for the subject property. These services are described in the following table:

Utility / Service	Type	Utility Company or Municipality	Comments/Historical Services
Heat	Natural gas	DTE Energy	Historical use of coal and fuel oil Original natural gas connection date not determined.
Potable water	Municipal	City of Detroit	Available along E. Atwater Street and Riopelle Street since at least 1884.
Electricity	Electric lines	City of Detroit	Electricity has been provided since at least 1897.
Sewage disposal	Municipal	City of Detroit	Original connection date not determined.

Additional information regarding the referenced heat, water, and sewage utilities is presented in Section 4.4.

### **3.6 CURRENT USES OF THE ADJOINING PROPERTIES**

The following table describes the current uses of the adjoining properties, identified occupants, and noteworthy observations of environmental concern, if any, that were noted during AKT Peerless' recent reconnaissance of the adjoining properties.

Adjoining Properties Parcels A through G			
Direction	Address	Current Use / Occupant	Potential Concerns
North	1360 Franklin Street	Commercial building / Storage	None observed
	1370 Franklin Street	Vacant building and associated parking lot	None observed
	1424 Franklin Street	Parking lot	None observed
	1438 Franklin Street	Commercial Building / Office Suites	None observed
	1450 Franklin Street	Vacant lot	None observed
	1460-1490 Franklin Street	Vacant Commercial Building	Fill port indicating current or former UST located at southeastern corner of the building.
	1651 Guoin Street	Vacant land and abandoned railroad tracks	Abandoned railroad tracks
Northeast	1651 Guoin Street	Vacant land and abandoned railroad tracks	Abandoned railroad tracks
East	1547 E. Atwater Street	Vacant land and abandoned railroad tracks	Abandoned railroad tracks
Southeast	1500 E. Atwater Street	Vacant land	None observed
South (Parcel H)	1340 E. Atwater Street	Vacant land	None observed
	1350 E. Atwater Street	Vacant land	None observed
	1420 E. Atwater Street	Vacant land	None observed
	1440 E. Atwater Street	Vacant land	None observed
	1470 E. Atwater Street	Vacant land	Coal was observed on the western portion of the property.
Southwest	1330 E. Atwater Street	Vacant land being developed	None observed
West	1303 E. Atwater Street	Border Patrol office and associated parking	None observed



Adjoining Properties Parcel H			
Direction	Address	Current Use / Occupant	Potential Concerns
North (Parcels A through G)	1461 E. Atwater Street	Vacant land	Fill material and indication of possible pit.
	1471 E. Atwater Street	Vacant land	Fill material
Northeast	1547 E. Atwater Street	Vacant land and abandoned railroad tracks	Abandoned railroad tracks
East	1500 E. Atwater Street	Vacant land	None observed
South	Not applicable	Detroit River	None observed
West	1440 E. Atwater	Vacant land being developed	None observed

Based on AKT Peerless' visual observations, the current uses of the adjoining properties do not appear to pose a direct environmental threat to the subject property, except for the abandoned railroad tracks and potential USTs located on the adjoining property to the north of Parcel G. In addition a machine pit, fill material, and former coal storage were observed on the subject property. These concerns are discussed in Section 6.3.

#### 4.0 RECORDS REVIEW

The objective of the records review is to evaluate reasonably ascertainable databases, historical records, and physical setting records to help identify recognized environmental conditions at the subject property and, to the extent identifiable, at surrounding properties.

#### 4.1 PHYSICAL SETTING SOURCES

AKT Peerless reviewed geological survey maps for geologic, hydrologic, and topographic conditions that may affect potential contaminant migration to the subject property.

##### 4.1.1 Topography and Area Hydrogeology

According to the USGS' *Topographic Map of the Detroit, Michigan Quadrangle*, which was published in 1968 and was photorevised in 1973 and 1980, the subject property is situated between 579 and 590 feet above the National Geodetic Vertical Datum (NGVD). The subject property's topography appears to decline gently to the south.

AKT Peerless did not obtain or review reports that document actual groundwater conditions at or adjacent to the subject property. Therefore, AKT Peerless was unable to (1) identify the depth to shallow groundwater beneath the subject property, or (2) determine the groundwater flow direction beneath the subject property.

Typically, the water table aquifer flows toward a major drainage feature or in the same direction as the drainage basin. The Detroit River, which flows southwest, is located approximately 175 feet south of Parcel H. Therefore, AKT Peerless infers that groundwater beneath the subject

property flows to the south, with potential influence from the Detroit River.

The Detroit River is located approximately 175 feet south of Parcel H. Otherwise, AKT Peerless' research did not identify any known groundwater recharge area on or near the subject property, or any groundwater supply on the subject property. Groundwater from the area of the subject property does not serve as the primary drinking water source for properties in Detroit, which obtains its municipal water from the Detroit Water & Sewerage Department (DWSD). Public sources of information do not identify main aquifers below the subject property.

#### **4.1.2 Area Geology and Soil**

According to the MDNR Geological Survey Division's *Bedrock Geology of Southern Michigan* (1987), bedrock beneath the subject property is classified as Bedford Shale of an unassigned series within the Devonian System of the Paleozoic Era. The depth to bedrock beneath the subject property was not readily available prior to the completion of this Phase I ESA.

According to the Michigan Geological Survey Division's publication, *Quaternary Geology of Southern Michigan*, soil in the area is lacustrine clay and silt. This soil is described as gray to dark reddish brown and is varved in some localities. The soil chiefly underlies extensive, flat, low-lying areas formerly inundated by glacial Great Lakes. Soil thickness ranges from 10 to 30 feet. Typically, lacustrine clay and silt are associated with low hydraulic permeability and restrict the movement of groundwater.

According to the United States Department of Agriculture, *Soil Survey of Wayne County, Michigan*, the soil in the area is classified as the Pewamo-Blount-Metamora association. This soil is described as "*nearly level to gently sloping, poorly drained to somewhat poorly drained soils that have a fine-textured to moderately fine-textured subsoil.*"

AKT Peerless did not obtain other information about the subject property's soil during this Phase I ESA, except as described in the Phase II subsurface investigations conducted by ECT, Weston, and EM in 1999 and 2005. During these previous investigations, soil encountered beneath the subject property consisted of fill material from ground surface to a depth of approximately five feet below ground surface. This fill was underlain by clay and silt to approximately 20 feet below ground surface, the maximum depth explored.

#### **4.2 STANDARD ENVIRONMENTAL RECORD SOURCES**

AKT Peerless retained EDR to provide current environmental database information compiled by a variety of federal and state regulatory agencies. The purpose of obtaining this data was to evaluate potential environmental risks associated with the subject property, adjoining sites, and other sites that are (1) identified on target lists, and (2) within varying distances of up to one mile from the subject property. AKT Peerless reviewed the following federal and state databases for such listings within the indicated search radii.



Type	Regulatory Agency Database	Approximate Minimum Search Distance
Federal	National Priority List (NPL)	1 mile
Federal	Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)	½ mile
Federal	CERCLIS No Further Remediation Action Planned (NFRAP) Site List	Subject property and adjoining properties
Federal	Resource Conservation and Recovery Act (RCRA) Corrective Action Report (CORRACTS) Facilities List	1 mile
Federal	RCRA non-CORRACTS Treatment, Storage or Disposal (TSD) Facilities List	½ mile
Federal	RCRA Generators List	Subject property and adjoining properties
Federal	Environmental Response and Notification System (ERNS)	Subject property
State	State Hazardous Waste Site (SHWS) (a.k.a. Part 201 Sites)	1 mile
State	Solid Waste Facilities/Landfill Sites (SWLF)	½ mile
State	Historical Landfill Site (HIST LF)	½ mile
State	Leaking Underground Storage Tank (LUST) List (a.k.a. Part 213 Sites)	½ mile
State	Registered Underground Storage Tank (UST) List	Subject property and adjoining properties
State	Baseline Environmental Assessment (BEA) Sites	½ mile
Either	Unmappable Database Listings (a.k.a. Orphan Sites)	1 mile

- Neither the US EPA nor Michigan Tribal Governments nor the State of Michigan maintains registries of sites with Institutional Controls / Engineering Controls in the subject property area.

#### **4.2.1 Subject Property and Occupant Listings**

The EDR Report (Appendix D) does not identify the subject property or known occupants on the referenced databases, except for the following:

- The Koenig Concrete Company located at 1470 E. Atwater Street (Parcel H) was identified on the registered UST and “closed,” LUST databases. Koenig Concrete was listed as having one 12,000-gallon diesel UST and one 6,000-gallon gasoline UST that were installed in December 1961, and removed in September 1990. Both USTs were constructed of asphalt-coated or bare steel. A confirmed release from the gasoline UST was reported in April 1990. A second confirmed release was reported in October 1994. These releases were closed August 22, 1995.
- Ambassador Steel Co. located at 1469 E. Atwater Street (Parcel F) is identified as the owner of one 5,500-gallon diesel UST, a 955-gallon gasoline UST, that were installed in 1966 and removed in 1992, and one unknown content and capacity UST that was installed in 1966 and was removed in 1980. Specific data about these USTs is presented in the EDR Report. In addition, this site was identified on the “open” LUST site database. According to EDR, a confirmed release of diesel was reported to MDEQ in September 1992.

Additional information about the presence of the Koenig Concrete Company and the



Ambassador Steel Co. on the referenced database(s) is presented in Section 4.3.

## 4.2.2 Adjoining and Nearby Sites

AKT Peerless' review of the referenced databases (including those on the orphan list) also considered the potential or likelihood of contamination from adjoining and nearby sites. To evaluate which of the adjoining and nearby sites identified in the EDR Report present an environmental risk to the subject property, AKT Peerless considered the following criteria:

- the type of database on which the site is identified.
- the topographic position of the identified site relative to the subject property.
- the direction and distance of the identified site from the subject property.
- local soil conditions in the subject property area.
- the known or inferred groundwater flow direction in the subject property area.
- the status of the respective regulatory agency-required investigation(s) of the identified site, if any.
- surface and subsurface obstructions and diversions (e.g., buildings, roads, sewer systems, utility service lines, rivers, lakes, and ditches) located between the identified site and the subject property.

Only those sites that are judged to present a potential environmental risk to the subject property are further evaluated by reviewing MDEQ file information. Using the referenced criteria, and based upon a review of readily available information contained within the EDR Report, AKT Peerless did not identify adjoining (i.e., bordering) or nearby sites (e.g., properties within a ¼-mile radius) listed in the EDR Report that were judged to present a potential environmental risk to the subject property, except for the following:

State Database			
<b>Database(s):</b>	LUST and registered UST	<b>Distance:</b>	Adjoining
<b>Name:</b>	Crain Communications Inc.	<b>Direction:</b>	North
<b>Address:</b>	1370 Franklin Street	<b>Elevation:</b>	584 feet
<b>Section References:</b>	Section 7.1	<b>Known/Inferred Groundwater Flow Direction:</b>	South
Crain Communications Inc. is identified as the owner of one 1,000-gallon gasoline UST that was installed in December 1952 and removed in January 1992. Specific data about these USTs is presented in the EDR Report. A gasoline LUST incident was confirmed in January 1992 and the investigation was closed in May 1994.			

Federal and State Databases			
<b>Database(s):</b>	RCRA-SQG, UST, and LUST	<b>Distance:</b>	Adjoining
<b>Name:</b>	Lafarge Corporation and Inland Lakes Management at Lafarge Dock	<b>Direction:</b>	East
<b>Address:</b>	1500 E. Atwater Street	<b>Elevation:</b>	579 feet
<b>Section References:</b>	Sections 4.4.2 and 7.1	<b>Known/Inferred Groundwater Flow Direction:</b>	South
<p>The Lafarge Corporation is classified as a SQG, has not reported TSD Activities, and has no reported RCRA violations. However, Inland Lakes Management at Lafarge Dock is classified as a RCRA-SQG with several violations. According to EDR, five violations were noted during inspections of the subject property in October 1999. These violations receive compliance in June 2000.</p> <p>In addition, the Lafarge Corporation is identified as the owner of one 12,000-gallon and two 6,000-gallon diesel USTs that were installed in 1961 and were removed in 1990. Specific data about these USTs are presented in the EDR Report.</p> <p>This site was identified on the "open" LUST site database. According to EDR, a confirmed release of diesel/gasoline was reported to MDEQ in May 1990. The Inland Lakes Management at Lafarge Dock is classified as RCRA-SQG with several violations.</p>			

### 4.3 ENVIRONMENTAL RECORD SOURCES

#### 4.3.1 MDEQ Waste and Hazardous Material Division (WHMD) Records

AKT Peerless contacted the MDEQ WHMD to review available records regarding waste management activities, permits, inspections, violations, and registered USTs associated with the subject property.

The MDEQ WHMD provided AKT Peerless with UST information pertaining to the subject property. This information is summarized in the following tables:

Underground Storage Tanks – General Data Former Koenig Concrete (Parcel H)					
Tank ID	Installation Date	Tank Contents	Tank Capacity	Removal Date	Tank Status
1	December 1961	Diesel	12,000 gallons	9/5/1990	Removed
2	December 1961	Gasoline	6,000 gallons	9/5/1990	Removed

Underground Storage Tanks – Description of Performance Standards							
Tank ID	Spill and Overfill Prevention	Release Detection		Construction		Corrosion Protection	
		Tank	Piping	Tank	Piping	Tank	Piping
1	Not Reported	Not Reported	Not Reported	Steel	Unknown	Not Reported	Not Reported
2	Not Reported	Not Reported	Not Reported	Steel	Unknown	Not Reported	Not Reported

#### 4.3.2 MDEQ Remediation and Redevelopment Division (RRD) Records

AKT Peerless contacted the RRD's Cost Recovery Unit (CRU) in Lansing, Michigan to



determine if environmental cleanup liens had been filed against the subject property. Ms. Jackie Barnet responded that there are no environmental cleanup liens filed against the subject property at this time.

AKT Peerless contacted the MDEQ-RRD Southeast Michigan District Office to review available records regarding environmental information of leaking USTs associated with the subject property. According to information provided by Ms. Lori Coburn of the MDEQ-RRD Southeast Michigan District, the MDEQ does not have record of leaking USTs associated with the subject property. However, two of the subject property parcels (Parcel H and Parcel F) were listed on the LUST database. This gap in historical information is considered *data failure* as provided in Section 7.3.2.3 of the ASTM Standard Practice For ESAs (E 1527).

#### **4.4 ADDITIONAL ENVIRONMENTAL RECORD SOURCES**

##### **4.4.1 Local Health Department**

The Wayne County Health Department indicated that they do not have records pertaining to the subject property. In addition, AKT Peerless contacted the Detroit Health Department to inquire about file information pertaining to environmental concerns associated with the subject property. According to the Detroit Health Department records, an inspection of the Rex Transport Facility, which was located at 1325 E. Atwater Street (Parcel D), was conducted on November 1987. During the inspection, the facility was issued a violation for not maintaining proper manifest documentation for waste oil shipments. Rex Transport provided the Detroit Health Department with correspondence indicating that appropriate action was taken to maintain future record-keeping requirements.

##### **4.4.2 Local Fire Department**

###### **Subject Property (Parcel D)**

The Detroit Fire Department records for Parcel D indicate that a 500-gallon waste oil UST, a 1,000-gallon motor oil AST, and several 55-gallon drums containing methanol and cleaning solvent were located at the subject property. The records also indicated that the facility received the following violations:

- September 5, 1985
  - Need to conduct and approved test on the 500-gallon waste oil UST piping and vent as per NFPA # 30 Sec. 2-7.3, 3-7.1
  - Fasten all oxygen and acetylene cylinders to firm foundation.
  - Repair or replace defective dispenser nozzle on the 1,000-gallon motor oil AST.
- August 12, 1987
  - Replace defective dome corer pressure vent
  - Replace all dome corers and gaskets
  - All tank vehicles used for transport of flammable liquid shall be conspicuously and legibly marked.
- July 20, 1988
  - Discontinue the delivery, sale, and transportation of flammable and/or combustible liquids within Detroit City Limits until tank trucks have been repaired.



- August 13, 1992
  - Submit notarized letter indicating that Rex Transportation is no longer transporting flammable liquids.

In addition, a letter from Rex Transportation dated January 1987 indicates that the waste oil UST was removed. AKT Peerless did not locate any registration records for this UST.

Subject Property (Parcel F)

The following records were maintained pertaining to Parcel F (1461 E. Atwater Street).

Underground Storage Tanks				
Installation Date	Tank Contents	Tank Capacity	Removal Date	Tank Status
February 1966	Diesel	5,500 gallons	September 1992	Removed
February 1966	Gasoline	955 gallons	September 1990	Removed
February 1966	Diesel	5,000 gallons	January 1980	Removed

Subject Property (Parcel H)

The following records were maintained pertaining to Parcel H (1470 E. Atwater Street).

Underground Storage Tanks				
Installation Date	Tank Contents	Tank Capacity	Removal Date	Tank Status
April 1956	Gasoline	2,000 gallons	Unknown	Unknown
June 1960	Gasoline	2,000 gallons	Unknown	Unknown
December 1961	Gasoline	6,000 gallons	September 1990	Removed
December 1961	Diesel	12,000 gallons	September 1990	Removed

Aboveground Storage Tanks				
Installation Date	Tank Contents	Tank Capacity	Removal Date	Tank Status
Unknown	Fuel Oil	250 gallons	Unknown	Removed

Adjoining Property south of Parcels B and D (1350 E. Atwater Street)

Underground Storage Tanks				
Installation Date	Tank Contents	Tank Capacity	Removal Date	Tank Status
October 1945	Gasoline	1,000 gallons	October 1963	Removed
May 1966	Gasoline	6,000 gallons	Unknown	Out of Use
Unknown	Gasoline	6,000 gallons	Unknown	Out of Use

Adjoining Property East of Parcel H and Southeast of Parcel G (1500 Atwater)

Underground Storage Tanks				
Installation Date	Tank Contents	Tank Capacity	Removal Date	Tank Status
April 1961	Diesel	12,000 gallons	September 1990	Removed
April 1961	Diesel	6,000 gallons	September 1990	Removed
April 1961	Diesel	6,000 gallons	September 1990	Removed

AKT Peerless noted violations were issued to the eastern adjoining property in 1986 and 1987, due to diesel fuel dispensing equipment.

#### **4.4.3 Water & Sewage Utility Provider**

AKT Peerless referenced Sanborn Fire Insurance Maps and the City of Detroit Building and Safety Engineering Department for information pertaining to water and sewer services for the subject property. Sanborn maps indicate that municipal water service has been available to the subject property since at least 1884. Based on historical information, it is not likely that the subject property would have utilized a septic system.

#### **4.4.4 Natural Gas Provider**

DTE Energy currently provides natural gas service to the subject property. DTE Energy has informed AKT Peerless that it will process original connection date requests only in response to a subpoena or government inquiry.

AKT Peerless' review of readily available standard and other historical sources provided only limited information regarding utilities associated with the former industrial building present on the subject property from at least 1884 until 2002. This gap in historical information is considered *data failure* as provided in Section 7.3.2.3 of the ASTM Standard Practice For ESAs (E 1527).

#### **4.4.5 Previous Environmental Reports**

Belmar Development provided AKT Peerless with a copy of a Category "N" Baseline Environmental Assessment (BEA), prepared in June 2005 by Enviro Matrix on behalf of the City of Detroit. The BEA was disclosed to the MDEQ on June 30, 2005. Enviro-Matrix's BEA included several previous environmental investigations of the subject property, which are summarized in the following subsections:

- Phase I Environmental Site Assessment, prepared in May 1999 by Environmental Consulting and Technology Inc. (ECT) on behalf of The City of Detroit.

On May 28, 1999, ECT conducted a Phase I ESA of Parcel H. At the time of Phase I Environmental Site Assessment, the subject property consisted of a cement material distribution and storage facility with no structures except packing and loading hoppers and an operations control room. The purpose of ECT's Phase I ESA was to determine if the current and historical use of the property resulted in recognized environmental conditions. ECT identified the following environmental concerns associated with Parcel H.

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environmental services

- three pole-mounted transformers of unknown age and PCB status
- current and historical industrial use of the property (coal yard, marine terminal, cement plant, public lighting commission, Detroit Street Railway yard)
- possible vent pipe indicating abandoned UST
- surface staining from truck fueling
- potential releases from numerous former USTs
- the use of fill material during water front construction
- onsite storage of UST and ASTs
- current and historical use of the adjacent properties

ECT recommended conducting a Phase II subsurface investigation to evaluate the environmental concerns identified during the Phase I ESA.

- Phase II Environmental Site Assessment, prepared in 1999 by ECT on behalf of the City of Detroit.

In 1999, ECT conducted a Phase II ESA to evaluate the environmental concerns identified at Parcel H during the Phase I ESA. During the investigation, ECT (1) drilled three soil borings, (2) installed seven monitoring wells, (3) collected four soil samples and six groundwater sample, and (4) submitted soil and groundwater samples for laboratory analyses. Soil and groundwater samples were submitted for laboratory analyses of select parameters including benzene, toluene, ethylbenzene, and xylenes (BTEX); polynuclear aromatic hydrocarbons (PNAs), polychlorinated biphenyls (PCBs), and metals.

According to ECT, BTEX and metals were detected in soil samples at concentrations above MDEQ Part 201 Groundwater-Surface Water Interface (GSI) Protection Criteria and Direct Contact Criteria. In addition, BTEX, PNAs, and metals were detected in groundwater samples at concentrations above MDEQ Part 201 GSI Criteria. ECT concluded that the subject property meets the definition of a "facility." ECT recommended conducting additional investigation to prepare a mixing zone determination and site-specific GSI criteria.

- Phase II Environmental Inquiry, prepared in May 1999 by Roy F. Weston Inc. (Weston) on behalf of The City of Detroit.

In May 1999, Weston completed a Phase II Environmental Inquiry for the Waterfront Reclamation Casino Development Project. The purpose of this inquiry was to provide the information necessary to complete an Administrative Agreement and Covenant Not to Sue with the State of Michigan. The investigation area included 107 parcels and adjacent rights-of-way – part of which included the subject property Parcels D through H. Weston's investigation included (1) review of existing environmental reports, (2) geophysical survey of select parcels, (3) collecting surface samples from select parcels, (4) an evaluation of abandoned containers, and (5) drilling soil borings.

Weston conducted assessment activities on the subject property Parcels D through G. During the investigation on these parcels, Weston (1) conducted a geophysical surveys of Parcels F and G (outside of buildings), (2) drilled soil borings on Parcels D through H, (3) collected soil and groundwater samples, and (4) submitted soil samples for laboratory analyses. Samples were



submitted for laboratory analyses of select parameters including VOCs, semi-volatile organic compounds (SVOCs), PCBs, and Michigan metals.

The following table provides a summary of analytical results detected above applicable criteria at the respective parcel.

<b>Parcel Designation</b>	<b>Matrix</b>	<b>Parameter</b>	<b>Criteria Exceeded</b>
Parcel D	Soil	SVOCs	Direct Contact
	Groundwater	SVOCs	Groundwater Contact
Parcel E (r-o-w)	Soil	Metal (arsenic)	Direct Contact
Parcel F	Soil	SVOCs Metals (arsenic and lead)	Direct Contact
	Groundwater	SVOCs	Groundwater Contact
Parcel H	Soil	BTEX	Groundwater to Surface Water Interface Drinking Water

In addition, several abandoned containers (ASTs, drums, etc.) were observed at the subject property during Enviro-Matrix investigation. These containers have since been removed from the subject property.

According to Enviro-Matrix, geophysical surveys conducted on the subject property identified two anomalies (one on northeast corner and one on southeast corner) on Parcel F. AKT Peerless was not provided with any additional information regarding investigation of these anomalies. It is important to note that the surveys were not conducted on all parcels (only Parcels F and G), and were conducted outside the former buildings.

- Updated Phase II ESA LaFarge Property – 1470 (Parcel H), 1500, and 1650 E. Atwater Street, prepared in June 2005 by Enviro-Matrix on behalf of the City of Detroit.

On June 30, 2005, Enviro-Matrix conducted a Phase II ESA to evaluate the environmental concerns identified at the LaFarge Property – the western portion of which includes Parcel H. The purpose of Enviro-Matrix Updated Phase II ESA was to further investigate and verify the results of previous investigations conducted by ECT in 1999. During the investigation, Enviro-Matrix (1) drilled five soil borings, (2) collected five soil samples and five groundwater samples, and (4) submitted soil and groundwater samples for laboratory analyses. It is important to note that some of these borings were drilled on the properties adjoining Parcel H to the east and south. Soil and groundwater samples were submitted for laboratory analyses of volatile organic compounds (VOCs); polynuclear aromatic hydrocarbons (PNAs), and metals.

According to Enviro-Matrix, metals, PNAs, and 1,2,4-trimethylbenzene were detected in soil samples at concentrations above MDEQ Part 201 Groundwater-Surface Water Interface (GSI) Protection Criteria. Arsenic was detected in a soil sample above MDEQ Part 201 Direct Contact Criteria. Mercury, lead, silver, and fluoranthene were detected in groundwater samples at concentrations above MDEQ Part 201 GSI Criteria. Enviro-Matrix concluded that the subject property meets the definition of a “facility.”

#### 4.5 HISTORICAL USE INFORMATION

The objective of reviewing historical sources is to: (1) develop a history of previous uses or

specific occupancies of the subject property, (2) identify those uses or specific occupancies that are likely to have led to potential environmental concerns at the subject property, and to the extent identifiable, at adjoining properties, and (3) identify obvious uses of the subject property from the present, back to the property's *obvious* first developed use, or back to 1940, whichever is earlier.

## Historical Summary – Subject Property

The following table summarizes the general development and use of the subject property, as identified by AKT Peerless.

Parcels A, B, and C 1364 Franklin Street				
Time Period	Improvements	Use	Owner / Occupant	Data Source(s)
1884-1977	Railroad tracks	Railroad tracks.	Grand Trunk Western Railroad (1884-1991)	Municipal records Aerial photographs City directories Topographic map Sanborns
1980-2006	Railroad tracks are removed	Abandoned street and vacant land.	Grand Trunk Western Railroad (1884-1991)	Municipal records Aerial photographs City directories Topographic map Sanborns

Parcel D 1325 E. Atwater Street				
Time Period	Improvements	Use	Owner / Occupant	Data Source(s)
1884 - 1897	None apparent	Coal and lumber yard	Little CH Co. (1884-1912)	Sanborns
~ 1922	Several rectangular buildings	Warehouse and oil house on the eastern property portion.	United Fuel and Supply (1915-1922)	City directories Sanborns
~1949-1956	Demolition of former buildings. New small rectangular building.	Office and storage yard on eastern portion.	Cronin Coal Co. (1937-1941 and 1957), Pine Ridge Coal Co. (1957 and 1963)	Municipal records Aerial photographs City directories Sanborns
1957-1988	New large rectangular building.	Office and garage	Pine Ridge Coal Co. (1957 and 1963) and Rex Transportation (1970-1991)	Municipal records Aerial photographs City directories Topographic map Sanborns
1990-2002	Addition added connecting office building and garage.	Office and garage	Rex Transportation (1970-1991)	Municipal records Aerial photographs

Parcel D 1325 E. Atwater Street				
Time Period	Improvements	Use	Owner / Occupant	Data Source(s)
				City directories Topographic map Sanborns
2006	Demolition of all remaining structures.	Vacant	City of Detroit	Municipal records Aerial photographs City directories Topographic map Sanborns

Parcel E 1399 E. Atwater Street				
Time Period	Improvements	Use	Owner / Occupant	Data Source(s)
1884 - 1897	Several small rectangular sheds.	Lumber, coal and cement storage and railroad tracks	Little CH Co. (188-1912)	Sanborns
1922	Removal of small rectangular sheds and construction of two rectangular buildings.	Plaster Warehouse and railroad tracks	United Fuel and Supply Co. (1915-1918)	City directories Sanborns
1922 - 1956	Construction of one rectangular building and additions incorporating all buildings.	Charcoal Warehouse	Ray Fuel Co. (1933-1936), and Ray Industrial Inc. (1937-1941)	Municipal records Aerial photographs City directories Sanborns
1957 - 2000	Removal of former buildings and construction of 14,506 sq foot, 1-story warehouse.	Steel fabricating and storage	Ambassador Steel	Municipal records Aerial photographs City directories Topographic map Sanborns
2002-2006	Demolition of remaining structure.	Vacant	City of Detroit	Municipal records Aerial photographs City directories Topographic map Sanborns



<b>Parcel F</b> <b>1461 E. Atwater Street / 1469 E. Atwater Street</b>				
<b>Time Period</b>	<b>Improvements</b>	<b>Use</b>	<b>Owner / Occupant</b>	<b>Data Source(s)</b>
1884	Several small rectangular buildings.	Lumber and coal storage	R.C. Faulconer	Sanborns
1897 – 1930	Removal of former building and construction of two rectangular buildings.	Power house	D. S. Ry Power House (1921-1930)	City directories Sanborns
1949 – 1952	None apparent	Steel warehouse and office	Ambassador Steel	Municipal records Aerial photographs City directories Sanborns
1953-2000	Addition incorporating two buildings.	Large rectangular buildings used for steel fabricating and offices. Addition used as a paint room.	Ambassador Steel	Municipal records Aerial photographs City directories Topographic map Sanborns
2002	None apparent	Vacant	City of Detroit	Municipal records Aerial photographs City directories Topographic map Sanborns
2006	Demolition of structures.	Vacant	City of Detroit	Municipal records Aerial photographs City directories Topographic map Sanborns

<b>Parcel G</b> <b>1471 E. Atwater Street</b>				
<b>Time Period</b>	<b>Improvements</b>	<b>Use</b>	<b>Owner / Occupant</b>	<b>Data Source(s)</b>
1884	Several small rectangular buildings.	Lumber and coal storage	R.C. Faulconer	Sanborns
1897 – 1966	Construction of one large rectangular building.	Light industrial/manufacturing and warehouse	Mill Construction (1897), Detroit Screw Works (1900-1902), Allen Industries Inc. (1950-1953), and Ainsworth Manufacturing Corp. (1957)	Municipal records Aerial photographs City directories Sanborns
1967 – 1970	Removal of former building and construction of "I-shaped" building.	Light industrial/manufacturing	Coil Steel (1967)	Municipal records Aerial photographs City directories Topographic map

Parcel G 1471 E. Atwater Street				
Time Period	Improvements	Use	Owner / Occupant	Data Source(s)
				Sanborns interviews
1970-2002	None apparent	Vacant	Unknown	Municipal records Aerial photographs City directories Topographic map Sanborns
2006	Demolition of remaining structures.	Vacant land	City of Detroit	Municipal records Aerial photographs City directories Topographic map Sanborns

Parcel H 1470 E. Atwater Street				
Time Period	Improvements	Use	Owner / Occupant	Data Source(s)
1884	Several sheds.	Lumber, coal storage, and Lime Kiln	R.C. Faulconer and F.B. Sibley & Co. Lime Kiln	Sanborns
1887	Construction of large rectangular building.	Powerhouse boiler room and offices, Ice Company, and Lime and Stone Yard.	Pittman and Deans Ice Company (1897), Detroit Ry Powerhouse (1897-1922), and J.H. Little Lime and Stone Yard	Sanborns
1922 – 1956	Removal of sheds.	Powerhouse	Public Lighting Commission (1951)	Municipal records Aerial photographs City directories Sanborns
1961	Removal of former buildings.	Vacant land	Unknown	Municipal records Aerial photographs City directories Sanborns
1966-2002	Construction of two rectangular buildings.	Light industrial/manufacturing	Cooper Supply Co. (1967) and Koenig Fuels and Supply (1970 and 1997-2003)	Municipal records Aerial photographs City directories Topographic map Sanborns
2006	Demolition of remaining structures.	Vacant	City of Detroit	Municipal records Aerial photographs

Parcel H 1470 E. Atwater Street				
Time Period	Improvements	Use	Owner / Occupant	Data Source(s)
				City directories Topographic map Sanborns

### Historical Summary – Northern Parcels (A through G) Adjoining Properties

#### North

The northern adjoining properties have consisted of railroad tracks, light industrial/manufacturing buildings and associated storage yards since at least 1884. Previous occupants of these properties include Insto Gas Corp., Bryant and Detwiter Co., Hunton, Myles and Weeks Lumber, and Office suites.

#### Northeast

The northeastern adjoining property, beyond Riopelle Street, consisted of railroad tracks and storage yards from at least 1884 until 1950 and light industrial/manufacturing from 1953 to 2000. Identified occupant since that time was the Detroit Grand Haven & Milwaukee Railroad.

#### East

The eastern adjoining property, beyond Riopelle Street, contained railroad tracks and light industrial/manufacturing facilities from at least 1884 until 1922. From at least 1950 to 2000 the property to the east was vacant land. Identified previous occupants include Detroit Grand Haven & Milwaukee Railroad, Detroit Screw Works and the Parker Bros. Coal Yard.

#### Southeast

The southeastern adjoining property, beyond Riopelle Street and Atwater Street, was a coal storage yard from at least 1884 until 1897, when it was improved with a light industrial/manufacturing building and associated paved and landscaped areas. Previous occupants of this property include J.E. Pittman, Huron Portland Cement, and Lafarge.

#### South (Parcel H)

The southern adjoining properties, beyond Atwater Street consisted of light industrial/manufacturing buildings from at least 1897 until the late 2000. Previous occupants of these properties include R. C. Faulconer Lumber Yard, F.B. Sibley & Co. Lime Kiln, J. H Little Lime and Stone Yard, Detroit Ry Powerhouse, Copper Supply Co., U.S. Gypsum Co., United Fuel and Supply Co., Koenig Fuel and Supply, and Lafarge.

#### Southwest

The southwestern adjoining property, beyond Atwater Street consisted of a storage yard from 1884 until 1975. From 1980 until 2000 the adjoining property to the southwest was a parking lot. Previous occupants of this property include Young Bros Sheet Iron Works and Great Lakes Engineering Works.

#### West

The western adjoining property consisted of a railroad yard from at least 1884 until the 1988s, when it was improved with a commercial building and associated paved and landscaped areas.



## Historical Summary – Southern Parcel (H) Adjoining Properties

### North (Parcels A through G)

The northern adjoining properties, beyond Atwater Street consisted of storage yards from at least 1884 until 1897, when it was improved with light industrial/manufacturing buildings and associated paved and landscaped areas. Previous occupants of these properties since that time include D.S. Ry Power House, Ainsworth Manufacturing Corp., Coil Steel Company, R.C. Faulconer, Mill Construction, Detroit Screw Works, and Detroit United Railway.

### Northeast

The northeastern adjoining property, beyond Riopelle Street and Atwater Street, was railroad tracks and light industrial/manufacturing from at least 1884 until 1922. From at least 1950 to 2000 the property to the east was vacant land. Previous occupants since that time include Detroit Grand Haven & Milwaukee Railroad, Detroit Screw Works and the Parker Bros. Coal Yard.

### East

The eastern adjoining property was a coal storage yard from at least 1884 until 1897, when it was improved with a light industrial/manufacturing building and associated paved and landscaped areas. Previous occupants of this property include J.E. Pittman, Huron Portland Cement, and Lafarge.

### South

The Southern adjoining property consists of boat slips from at least 1884 to 1897, when it was filled in. Previous occupants of this property include R. C. Faulconer Lumber Yard, F.B. Sibley & Co. Lime Kiln, J. H Little Lime and Stone Yard, Detroit Ry Powerhouse, Copper Supply Co., U.S. Gypsum Co., United Fuel and Supply Co., Koenig Fuel and Supply, and Lafarge.

### West

The western adjoining property consisted of light industrial/manufacturing buildings from at least 1884 until the 1980s, when it became vacant land. Previous occupants of these properties since that time include U.S. Gypsum Co., and Nicholson Universal Steamship Co.

## 4.5.1 Aerial Photographs

AKT Peerless obtained aerial photographs for the subject property from. AKT Peerless' observations noted during the review of these photographs are summarized in the following table. Photocopies of select aerial photographs are presented as Appendix E.

Photo Dates	Observations (Parcel A through C)	Potential Environmental Concerns
1949 1952 1956 1961 1966 1970 1975	The subject property is shown a railroad yard.	Outdoor material, equipment storage, and railroad tracks.
1980	The subject property is shown as abandoned street and vacant land.	Outdoor material,

<b>Photo Dates</b>	<b>Observations (Parcel A through C)</b>	<b>Potential Environmental Concerns</b>
1985 1990 1995 1999 2000 2002		equipment storage, and railroad tracks..

<b>Photo Dates</b>	<b>Observations 1325 E. Atwater Street (Parcel D)</b>	<b>Potential Environmental Concerns</b>
1949 1952 1956	The subject property is shown as one nearly rectangular building used as an office and storage yard on the eastern property boundary.	Potential industrial activities associated with coal storage.
1961 1966 1970 1980 1985	The subject property is shown as two rectangular buildings.	Potential activities associated with an automotive service garage.
1990 1995 1999 2000 2002	The subject property is shown as rectangular building with associated paved and landscaped areas.	Potential activities associated with an automotive service garage.

<b>Photo Dates</b>	<b>Observations 1399 E. Atwater Street (Parcel E)</b>	<b>Potential Environmental Concerns</b>
1949 1952 1956	The subject property is shown as a large rectangular building and railroad tracks.	Potential industrial activities associated with a fuel company and railroad tracks.
1961 1966 1970 1980 1985 1990 1995 1999 2000	The subject property is shown as one rectangular building.	Potential industrial activities associated with steel fabricating.
2002	The subject property is shown as vacant land.	Potential industrial activities associated with former use of the property.

<b>Photo Dates</b>	<b>Observations 1461 E. Atwater Street (Parcel F)</b>	<b>Potential Environmental Concerns</b>
1949 1952	The subject property is shown as three rectangular buildings.	Potential industrial activities associated steel fabricating and storage.
1956 1961 1966 1970 1980 1985 1990 1995 1999 2000	The subject property is shown as three rectangular buildings. There is a small addition in the center connecting the two buildings.	Potential industrial activities associated steel fabricating and storage.
2002	The subject property is shown as three vacant rectangular buildings with associated paved and landscaped areas.	Potential industrial activities associated steel fabricating and storage.

<b>Photo Dates</b>	<b>Observations 1471 E. Atwater Street (Parcel G)</b>	<b>Potential Environmental Concerns</b>
1949 1952 1956 1961 1966	The subject property is shown as one large rectangular building.	Potential industrial activities on the subject property exterior.
1970 1980 1985 1990 1995 1999 2000 2002	The subject property is shown as one I-shaped rectangular building.	Potential industrial activities on the subject property exterior.

<b>Photo Dates</b>	<b>Observations 1470 E. Atwater Street (Parcel H)</b>	<b>Potential Environmental Concerns</b>
1949 1956	The subject property is shown as light industrial/manufacturing property consisting of one rectangular building with associated paved and landscaped areas.	Potential industrial activities associated with a powerhouse.
1961	The subject property is shown as vacant land.	Potential industrial activities associated with a powerhouse.
1966	The subject property is shown as light industrial/manufacturing property	Potential industrial



<b>Photo Dates</b>	<b>Observations 1470 E. Atwater Street (Parcel H)</b>	<b>Potential Environmental Concerns</b>
1970 1975 1980 1985 1990 1995 1999 2000 2002	consisting of two rectangular buildings with associated paved and landscaped areas.	activities associated with copper and fuel companies.

AKT Peerless' review of historical aerial photographs of the adjoining properties is summarized in the following table.

<b>Photo Dates</b>	<b>Potential Environmental Concerns (Northern and Southern Parcels Adjoining Properties)</b>
1949 1952 1956 1961 1966 1970 1975 1980 1985 1990 1995 2000 2002	No obvious evidence or indications of recognized environmental conditions or other potential environmental concerns were noted with respect to the adjoining properties during AKT Peerless' review of the referenced aerial photographs, aside from the fact that the adjoining properties appear to have been developed with industrial/manufacturing buildings since at least 1949.

#### **4.5.2 Fire Insurance Maps**

AKT Peerless obtained fire insurance maps for the subject property from EDR. AKT Peerless' observations noted during the review of these maps are summarized in the following table. Photocopies of the referenced maps are presented in Appendix F.

<b>Map Dates</b>	<b>Observations (Parcel A through C)</b>	<b>Potential Environmental Concerns</b>
1884 1897 1922 1950 1951 1953 1957 1961 1977 1988 1991	The subject property is shown as a railroad yard.	Outdoor material, equipment storage, and railroad tracks.

<b>Map Dates</b>	<b>Observations 1365 E. Atwater Street (Parcel B)</b>	<b>Potential Environmental Concerns</b>
1884 1897 1922 1950 1951 1953 1957 1961 1977 1988 1991	The subject property is shown as a storage yard and railroad tracks.	Potential industrial process activity on the subject property exterior, railroad tracks running through the subject property.

<b>Map Dates</b>	<b>Observations 1370 Guoin Street (Parcel C)</b>	<b>Potential Environmental Concerns</b>
1884 1897 1922 1950 1951 1953 1957 1961 1977 1988 1991	The subject property is shown as a storage yard and railroad tracks.	Potential industrial process activity on the subject property exterior, railroad tracks running through the subject property.

<b>Map Dates</b>	<b>Observations 1325 E. Atwater Street (Parcel D)</b>	<b>Potential Environmental Concerns</b>
1884 1897	The subject property is shown as a coal and lumberyard.	Potential industrial process activity on the subject property exterior, railroad tracks and coal storage sheds.
1922	The subject property is shown as several rectangular buildings used as a warehouse. There is an oil house on the eastern property boundary.	Potential industrial process activity on the subject property exterior, and potential of spills from oil house.
1950 1953	The subject property is shown as one nearly rectangular building used as an office and coal storage yard on the eastern property boundary.	Potential industrial process activity on the subject property exterior, and coal storage.
1957 1961 1977 1988	The subject property is shown as two rectangular buildings used as and office and garage.	Potential industrial process activity on the subject property exterior.
1991	The subject property is shown as rectangular building with associated paved and landscaped areas used as an office and garage.	Potential industrial process activity on the subject property exterior.

<b>Map Dates</b>	<b>Observations 1399 E. Atwater Street (Parcel E)</b>	<b>Potential Environmental Concerns</b>
1884	The subject property is shown as several lumber and coal yard storage sheds and railroad tracks.	Potential industrial process activity on the subject property exterior, railroad tracks and coal storage sheds.
1897	The subject property is shown as several rectangular buildings used for cement storage and railroad tracks.	Potential industrial process activity on the subject property exterior and railroad tracks running through the subject property.
1922	The subject property is shown as two rectangular buildings used as a plaster warehouse and railroad tracks.	Potential industrial process activity on the subject property exterior and railroad tracks running through the subject property.
1950 1951 1953	The subject property is shown as a large rectangular building used as a Charcoal warehouse and railroad tracks.	Potential industrial process activity on the subject property exterior and railroad tracks running through the subject property.
	The subject property is shown as one rectangular building used as a steel	Potential industrial



<b>Map Dates</b>	<b>Observations 1399 E. Atwater Street (Parcel E)</b>	<b>Potential Environmental Concerns</b>
1957 1961 1977 1988 1991	warehouse.	process activity on the subject property exterior and rail road tracks running through the subject property.

<b>Map Dates</b>	<b>Observations 1461 E. Atwater Street (Parcel F)</b>	<b>Potential Environmental Concerns</b>
1884	The subject property is shown as several lumber and coal yard storage sheds and railroad tracks.	Potential industrial process activity on the subject property exterior, railroad tracks and coal storage sheds.
1897 1922	The subject property is shown as three rectangular buildings used as a powerhouse. A boiler room is located at the northern property boundary; an engine room is located at the southern property boundary, and a storeroom at the eastern property boundary.	Potential industrial process activity on the subject property exterior and process associated with the powerhouse.
1950 1951	The subject property is shown as three rectangular buildings used as a steel warehouse and office.	Potential industrial process activity on the subject property exterior.
1953 1957 1961 1977 1988 1991	The subject property is shown as three rectangular buildings used for steel fabricating and office. There is a small paint room in the center connecting the two buildings used for fabricating.	Potential industrial process activity on the subject property exterior.

<b>Map Dates</b>	<b>Observations 1471 E. Atwater Street (Parcel G)</b>	<b>Potential Environmental Concerns</b>
1884	The subject property is shown as several lumber and coal yard storage sheds and railroad tracks.	Potential industrial process activity on the subject property exterior, railroad tracks and coal storage sheds.
1897 1922	The subject property is shown as one large rectangular building used for manufacturing.	As Potential industrial process activity on the subject property exterior.
1950 1951 1953	The subject property is shown as one large rectangular building used as a warehouse and machine shop.	Potential industrial process activity on the subject property exterior.

<b>Map Dates</b>	<b>Observations 1471 E. Atwater Street (Parcel G)</b>	<b>Potential Environmental Concerns</b>
1957 1961	The subject property is shown as one large rectangular building used for light industrial/manufacturing.	Potential industrial process activity on the subject property exterior.
1977 1988 1991	The subject property is shown as one "I-shaped" rectangular building used for light industrial/manufacturing.	Potential industrial process activity on the subject property exterior.

<b>Map Dates</b>	<b>Observations 1470 E. Atwater Street (Parcel H)</b>	<b>Potential Environmental Concerns</b>
1884	The subject property is shown as several lumber and coal yard storage sheds and railroad tracks.	Potential industrial process activity on the subject property exterior and coal storage sheds.
1897	The subject property is shown as two rectangular buildings. One is used as a powerhouse with a boiler room in the center, coal bunkers along Riopelle Street, offices, store rooms, machine shops and a oil room on the western wall of the building. The second building is used as an ice shop. The property also has docks and slips.	Potential industrial process activity on the subject property exterior, coal and oil storage.
1922 1951	The subject property is shown as one rectangular building used as a powerhouse	Potential industrial process activity on the subject property exterior.

AKT Peerless' review of historical fire insurance maps of the adjoining properties is summarized in the following table.

<b>Map Dates</b>	<b>Potential Environmental Concerns (Adjoining Properties)</b>
1884 1897 1922 1950 1951 1957 1961 1977 1988 1991	No obvious evidence or indications of recognized environmental conditions or other potential environmental concerns were noted with respect to the adjoining properties during AKT Peerless' review of the referenced maps, aside from the fact that the adjoining properties appear to have been developed with industrial/manufacturing buildings since at least 1884.

#### 4.5.3 City Directories

City Directories from various years between 1969-1970 and 2001-2002 were reviewed at the Bresser's Cross-Reference Directory archival library. The purpose of this review was to determine the past occupancy of the subject property. Information obtained from the reviewed directories is summarized in the following table:

<b>Dates</b>	<b>Parcel A Occupants (1364 Franklin Street)</b>
1900-1908	Address not listed
1909-1912	Vacant
1915-2003	Address not listed

<b>Dates</b>	<b>Parcel B Occupants (1365 E. Atwater Street)</b>
1900-1941	Address not listed
1957-1974	
1997-2003	

<b>Dates</b>	<b>Parcel C Occupants (1370 Guoin Street)</b>
1900-1941	Address not listed
1957-1974	
1997-2003	

<b>Dates</b>	<b>Parcel D Occupants (1325 E. Atwater Street) (321-327 Atwater Street prior to 1920s)</b>
1900-1935	Little C.H. Co.
1915-1918	United Fuel and Supply
1919-1936	Address not listed
1937-1941	Cronin Coal Co.
1957	Pine Ridge Coal Co. and Cronin Coal and Supply Co.
1963	Pine Ridge Coal Co.
1967	Vacant
1970-1974	Rex Transportation
1997-2003	Address not listed

<b>Dates</b>	<b>Parcel E Occupants (1399 E. Atwater Street) (331-333 E. Atwater prior to the 1920s and 1389 in 1922)</b>
1900-1931	Little CH Co.
1915-1918	United Fuel and Supply Co.
1923-1932	Address not listed
1933-1936	Ray Fuel Co.
1937-1941	Ray Industrial Inc.
1957-1974	Address not listed
1997-2003	

<b>Dates</b>	<b>Parcel F Occupants (1461 E. Atwater Street / 1469 E. Atwater Street) (375 E. Atwater prior to the 1920s)</b>
1900-1901	Address not listed
1902-1930	D.S. Ry Power House
1932-1937	Vacant



Dates	Parcel F Occupants (1461 E. Atwater Street / 1469 E. Atwater Street) (375 E. Atwater prior to the 1920s)
1939-1941	Address not listed
1957-1974	
1997-2003	

Dates	Parcel G Occupants (1471 E. Atwater Street) (379-385 E. Atwater prior to the 1920s)
1900-1902	Detroit Ry Power House and Detroit Screw Works
1906-1941	Address not listed
1957	Ainsworth Manufacturing Corp.
1963	Vacant
1967	Coil Steel Co.
1970-1974	Vacant
1997-2003	Address not listed

Dates	Parcel H Occupants (1470 E. Atwater Street) (364-374 E. Atwater prior to the 1920s)
1900-1901	Ruelle Alexander tug owner and C.H. Little Co.
1902-1912	Ruelle Alexander tug owner, C.H. Little Co., and Pittmans and Deans Co.
1915-1941 1957-1963	Address not listed
1967	Cooper Supply Co.
1970	Koenig Fuel and Supply Co.
1974	Address not listed
1997-2003	Koenig Fuel and Supply Co.

An address that is not listed typically indicates that (1) the property was vacant at that time, (2) a potential building was unoccupied at that time, (3) a previously existing address was different than the current address, (4) the building was not represented in the directory because of a "lag time" between building the structure and compiling the list, or (5) occupant information was not available for inclusion into the directory.

AKT Peerless also reviewed city directories for select adjoining properties to determine their past occupancy. A summary of the select adjoining property occupants is presented in Appendix F. No obvious environmental concerns associated with historical occupants of the adjoining properties were noted, aside from the fact that the adjoining properties appear to have been developed with industrial/manufacturing buildings since at least the 1900s.

#### **4.5.4 Assessing Department Records**

AKT Peerless reviewed tax assessment records pertaining to the subject property at the Detroit Assessing Department. The following table summarizes features or items of potential environmental concern, if any, that were noted during the record review.

Environmental Issue	Comments
Storage Tanks	None identified
Asbestos-Containing Materials	None identified
PCB Materials	None identified
On-site Well/Septic System	None identified
Disposal Facilities/Fill Material (e.g., lagoons, pits, landfills, etc.)	None identified

Review of assessing records indicated that there was a 14,506 square foot warehouse constructed on Parcel E in 1958. Parcels A through C belonged to the railroad and were exempt. No other pertinent file information was maintained by the assessors office.

#### **4.5.5 Building Department Records**

AKT reviewed building records for the subject property at the Detroit Building Department. AKT Peerless' review indicated that Parcel D was used as a repair garage in 1975 and Parcel H was used for a concrete plant in 1961.

### **5.0 INTERVIEWS**

#### **5.1 INTERVIEW WITH SUBJECT PROPERTY OWNER**

AKT Peerless contacted Mr. Michael Dempsey, Project manager of the Detroit Economic Growth Corporation regarding this report. Mr. Dempsey had Mr. Raymond Scott, City of Detroit Department of Environmental Affairs complete the questionnaire. According to Mr. Scott the subject property and adjoining properties had been used for industrial purposes. Mr. Scott indicated that there had been automotive or industrial batteries, pesticides, paint, or other chemicals in individual containers of greater than five gallons, and/or industrial drums stored or used on the subject property. Registered USTs and stained soil was also located on this subject property at one time. According to Mr. Scott ACM and LBP has been on the subject property in the past.

#### **5.2 INTERVIEW WITH KEY SITE MANAGER**

AKT Peerless was not provided with contact information for a manager of the subject property.

#### **5.3 INTERVIEW WITH SUBJECT PROPERTY OCCUPANT(S)**

The subject property is currently vacant. Therefore, an interview with the occupant of the subject property was not applicable to this ESA.

#### **5.4 INTERVIEW(S) WITH OTHERS**

AKT Peerless was not provided with contact information for any other knowledgeable parties associated with the subject property during the course of this ESA.



## **6.0 SUBJECT PROPERTY RECONNAISSANCE**

### **6.1 METHODOLOGY AND LIMITING CONDITIONS**

The subject property reconnaissance consisted of visual and physical observations of the subject property. AKT Peerless visually and/or physically observed the periphery of the subject property. In addition, AKT Peerless observed the subject property from all adjacent public thoroughfares. AKT Peerless viewed the subject property following a grid pattern designed to cover representative portions of the unimproved areas.

Mr. Timothy J. McGahey and Ms. Megan Bahorski of AKT Peerless conducted the subject property reconnaissance on October 9, 2006. AKT Peerless encountered the following project specific facts or conditions that limited our ability to access the subject property:

- Visual observations of the subject properties northern Parcels (A through G) were limited by the presence of heavy vegetation.

### **6.2 GENERAL SUBJECT PROPERTY SETTING AND OPERATIONS**

The subject property consists of vacant land covered with fill material and overgrown vegetation. A concrete foundation is located on Parcel E. Otherwise there are no structures currently located on the subject property.

### **6.3 OBSERVATIONS**

#### **6.3.1 Hazardous Substances and Petroleum Products**

AKT Peerless did not observe hazardous substances and petroleum products at the subject property.

#### **6.3.2 Hazardous and Non-Hazardous Waste**

AKT Peerless did not observe hazardous or non-hazardous waste at the subject property.

#### **6.3.3 Storage Tanks**

AKT Peerless did not observe evidence of current or former UST systems (e.g., vent pipes, fill ports, dispensing pumps, patched pavement, etc.) at the subject property.

#### **6.3.4 Unidentified Substances/Containers**

AKT Peerless observed a possible coal like substance on the western portion of Parcel H. As discussed in sections 4.5, and 4.5.2, the subject property was used as a coal yard in 1884 and stored coal in bunkers for a powerhouse between 1897 and 1922.

#### **6.3.5 Potential PCB Containing Equipment**

AKT Peerless inspected the subject property for the presence of liquid-cooled electrical units such as transformers and large capacitors. Such units are notable since they may be potential sources of PCBs (polychlorinated biphenyls). AKT Peerless did not observe suspect PCB-containing equipment at the subject property.



### **6.3.6 Interior Staining / Corrosion**

This subsection does not apply since there are no buildings at the subject property.

### **6.3.7 Drains and Sumps**

This subsection does not apply since there are no buildings at the subject property.

### **6.3.8 Discharge Features**

Storm water that falls upon the subject property appears to percolate directly into the ground, or runoff into the adjoining road right-of-ways. AKT Peerless did not observe storm water catch basins or drains on the subject property.

### **6.3.9 Pits, Ponds, and Lagoons**

AKT Peerless did not observe evidence of a pit, ponds, or lagoons, or evidence thereof, at the subject property, except for the following:

Description	Location	Observed Environmental Concerns
Potential former machine pit	Located within foundation on Parcel E	Based on the historic use of this parcel this feature appears to be associated with a former machine pit.

### **6.3.10 Solid Waste Dumping / Landfills**

AKT Peerless did not observe evidence of solid waste dumping or landfills at the subject property.

### **6.3.11 Stained Soil, Stressed Vegetation, Stressed/Stained Pavement**

AKT Peerless did not observe any evidence of stained soil, stressed vegetation, stressed pavement, or stained pavement at the subject property, except for the following:

Description	Location	Size (approx.)	Observations
Stained concrete	Cement foundation on Parcel E	2' x 3'	AKT Peerless was unable to determine the origin of the stain

### **6.3.12 Well and Septic Systems**

AKT Peerless did not observe physical evidence or indication of wells or septic systems at the subject property.

### **6.3.13 Other Observations**

AKT Peerless did not observe evidence of other potential environmental concerns at the subject property, except for the following:

Description	Location	Observed Environmental Concerns
Concrete foundation	Parcel E	Cement foundation of former industrial/manufacturing building on Parcel E.
Fill material	All Parcels	None observed; origin of fill material may present environmental concern

#### **6.4 NON-ASTM SCOPE CONSIDERATIONS**

AKT Peerless did not evaluate any other potential environmental conditions (i.e., further areas of possible business/environmental concern and/or liability) that are outside the scope of ASTM Standard Practice E 1527-00. Examples of such potential environmental conditions that were beyond the scope of this Phase I ESA include asbestos-containing materials (ACMs), cultural and historic resources, ecological resources, endangered species, health and safety, high-voltage power lines, indoor air quality, industrial hygiene, lead-based paints (LBPs), lead in drinking water, moisture intrusion/suspect mold growth, noise pollution, radon, regulatory compliance/non-compliance and/or wetlands.

AKT Peerless advises users of this document who wish to obtain an evaluation of the subject property relative to any of the aforementioned non-ASTM issues to engage the services of a qualified environmental professional.

#### **7.0 CONCLUSIONS AND RECOMMENDATIONS**

##### **7.1 RECOGNIZED ENVIRONMENTAL CONDITIONS**

This Phase I ESA conforms to the scope and limitations of ASTM Standard Practice E 1527-00. In the professional opinion of AKT Peerless, an appropriate level of inquiry has been made into the previous ownership and uses of the subject property consistent with good commercial and customary practice in an effort to minimize liability, and no evidence or indication of RECs has been revealed, except for the following:

1. As discussed in Section 4.5, Parcels A through C contained railroad tracks from at least 1884 through the 1970s. It is AKT Peerless' opinion that the potential exists for the subject property's soil and groundwater to have been adversely affected by these former railroad tracks.
2. As described in Section 4.5, Parcel D consisted of a coal and lumber storage yard from at least 1884 until the early 1900s, when it was improved with a warehouse and oil house occupied by United Fuel and Supply. Automotive maintenance activities were conducted on Parcel D in the 1970s through 1990s. Analytical results of previous investigations indicate that SVOCs were detected in soil and groundwater above MDEQ Part 201 Direct Contact Criteria. It is AKT Peerless' opinion that a potential exists for the subject property's soil and groundwater to have been adversely affected by the historical use of Parcel D.
3. As described in Section 4.5, Parcel E consisted of a coal and lumber storage yard from at least 1884 until the early 1900s, when it was improved with a plaster warehouse, which was later used to store charcoal and steel. Analytical results of previous investigations indicate that metals were detected in soil above MDEQ Part 201 Direct Contact Criteria. It is AKT Peerless' opinion that a potential exists for the subject property's soil and groundwater to have been adversely affected by the historical use of Parcel E.
4. As described in Section 4.5, Parcel F consisted of a coal and lumber storage yard beginning in at least 1884. The subject property was used as a powerhouse from at least 1887 until 1930 when the building was converted to a steel warehouse. The subject property remained a steel warehouse until 1952, when it became a steel fabricating facility with a paint room.



According to the EDR Report, Parcel F was identified on the “open” LUST database due to a confirmed release of diesel fuel in September 1992. Analytical results of previous investigations indicate that SVOCs and metals were detected in soil and groundwater above MDEQ Part 201 Direct Contact Criteria. It is AKT Peerless’ opinion that a potential exists for the subject property’s soil and groundwater to have been adversely affected by the the historical use of Parcel F.

5. As described in Section 4.5, Parcel G consisted of a coal and lumber storage yard from at least 1884 until a light industrial/manufacturing and warehouse facility was constructed between 1884 and 1897. Industrial activities were conducted at Parcel G until the building was vacated in the 1970s, and was demolished in the 2000s. It is AKT Peerless’ opinion that a potential exists for the subject property’s soil and groundwater to have been adversely affected by the historical use of Parcel G.
6. As described in Section 4.5, Parcel H consisted of a coal and lumber storage yard from at least 1884 until industrial buildings were constructed in the late 1880s. These buildings were occupied by a powerhouse, a boiler room, a blacksmith shop, a machine shop, an oil house, coal bunkers, an ice house, and a lime kiln and storage yard. These structures were demolished between 1956 and 1961, and replaced with another industrial building. This building was occupied by a fuel supply company until it was demolished in the 2000s. Analytical results of previous investigations indicate that BTEX concentrations were detected in soil above MDEQ Part 201 GSI and Drinking Water Protection Criteria. It is AKT Peerless’ opinion that a potential exists for the subject property’s soil and groundwater to have been adversely affected by the historical use of Parcel H.
7. As discussed in Section 6.3.13, AKT Peerless observed fill material on the ground surface of each of the subject property parcels. The origin of this material is not known. In addition, AKT Peerless observed what appears to be a former machine pit on Parcel F.
8. As described in Sections 4.2.2 and 4.4.2, the following USTs were located on Parcel H:

Underground Storage Tanks				
Installation Date	Tank Contents	Tank Capacity	Removal Date	Tank Status
April 1956	Gasoline	2,000 gallons	Unknown	Unknown
June 1960	Gasoline	2,000 gallons	Unknown	Unknown
December 1961	Gasoline	6,000 gallons	September 1990	Removed
December 1961	Diesel	12,000 gallons	September 1990	Removed

According to Fire Department records the 6,000-gallon gasoline UST and the 12,000-gallon diesel UST – formerly located along the northeastern portion of the former building - were removed in September 1990. In addition, fire department file information indicates two 2,000-gallon gasoline USTs were installed on Parcel H in 1956 and 1960, respectively. However, historical information did not indicate whether these USTs were removed from Parcel H.

9. As described in Sections 4.5.1 and 4.5.2, railroad tracks were located along the northern and western portions of Parcel A through G from at least 1884 until approximately 1977. Potential concerns typically associated with railroad tracks include the use of fill materials as



ballast to support the ties and rails of the railroad tracks and leaks or spills of hazardous materials or petroleum products.

10. As described in Sections 4.2.2 and 4.4.2, industrial activities were conducted on the northern (1370 Franklin Street) and the eastern (1500 E. Atwater Street) adjoining properties beginning in the 1800s. These northern and eastern adjoining properties were identified on the "open" LUST site database.

Because RECs were identified during the performance of the Phase I ESA, further investigation and/or assessment is warranted in order to determine the nature, extent, magnitude, and materiality of the RECs associated with the subject property. In addition, AKT Peerless recommends conducting a geophysical survey of Parcel D, portions of Parcels F and G, and Parcel H to evaluate the potential for abandoned USTs.

## **7.2 HISTORICAL RECOGNIZED ENVIRONMENTAL CONDITIONS**

AKT Peerless did not identify HRECs in connection with the subject property, except for the following:

## **7.3 OTHER AREAS OF POTENTIAL CONCERN**

AKT Peerless did not identify other areas of potential concern in connection with the subject property during the course of this ESA.

AKT Peerless did not identify or encounter any instances of significant data gaps during the course of this ESA, except the following:

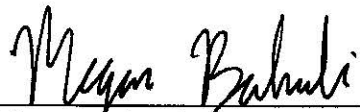
- AKT Peerless Freedom of Information (FOI) response from the MDEQ RRD indicates that a MDEQ file for the subject property does not exist. However, two of the subject property parcels (Parcel H and Parcel F) were listed on the Leaking Underground Storage Tank (LUST) database. This gap in historical information is considered *data failure* as provided in Section 7.3.2.3 of the ASTM Standard Practice For ESAs (E 1527).
- AKT Peerless' review of readily available standard and other historical sources provided only limited information regarding utilities associated with the former industrial buildings present on the subject property from between 1884 until the 2000s. This gap in historical information is considered *data failure* as provided in Section 7.3.2.3 of the ASTM Standard Practice For ESAs (E 1527).

## **8.0 DEVIATIONS**

AKT Peerless did not deviate from ASTM Standard Practice E 1527-00 when performing this Phase I ESA (i.e., no components of that practice were deleted, and no additions to it were made), except as a preliminary asbestos inspection as described in Section 6.4.1.

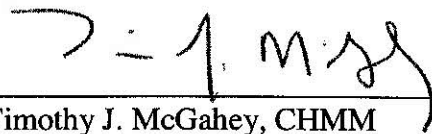
**9.0 SIGNATURES OF ENVIRONMENTAL PROFESSIONALS**

We declare that, to the best of our knowledge and professional belief, we meet the definition of environmental professional as defined in ASTM E-1527-05 and §312.10 of 40 CFR 312 or conducted this inquiry under the supervision or responsible charge of, an environmental professional. We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in ASTM E-1527-05 and 40 CFR Part 312.



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**FIGURES**





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**SUBJECT PROPERTY LOCATION MAP**

 **WATER LOFTS**  
ATWATER STREET  
DETROIT, MICHIGAN  
PROJECT NUMBER : 5133D

**LEGEND**

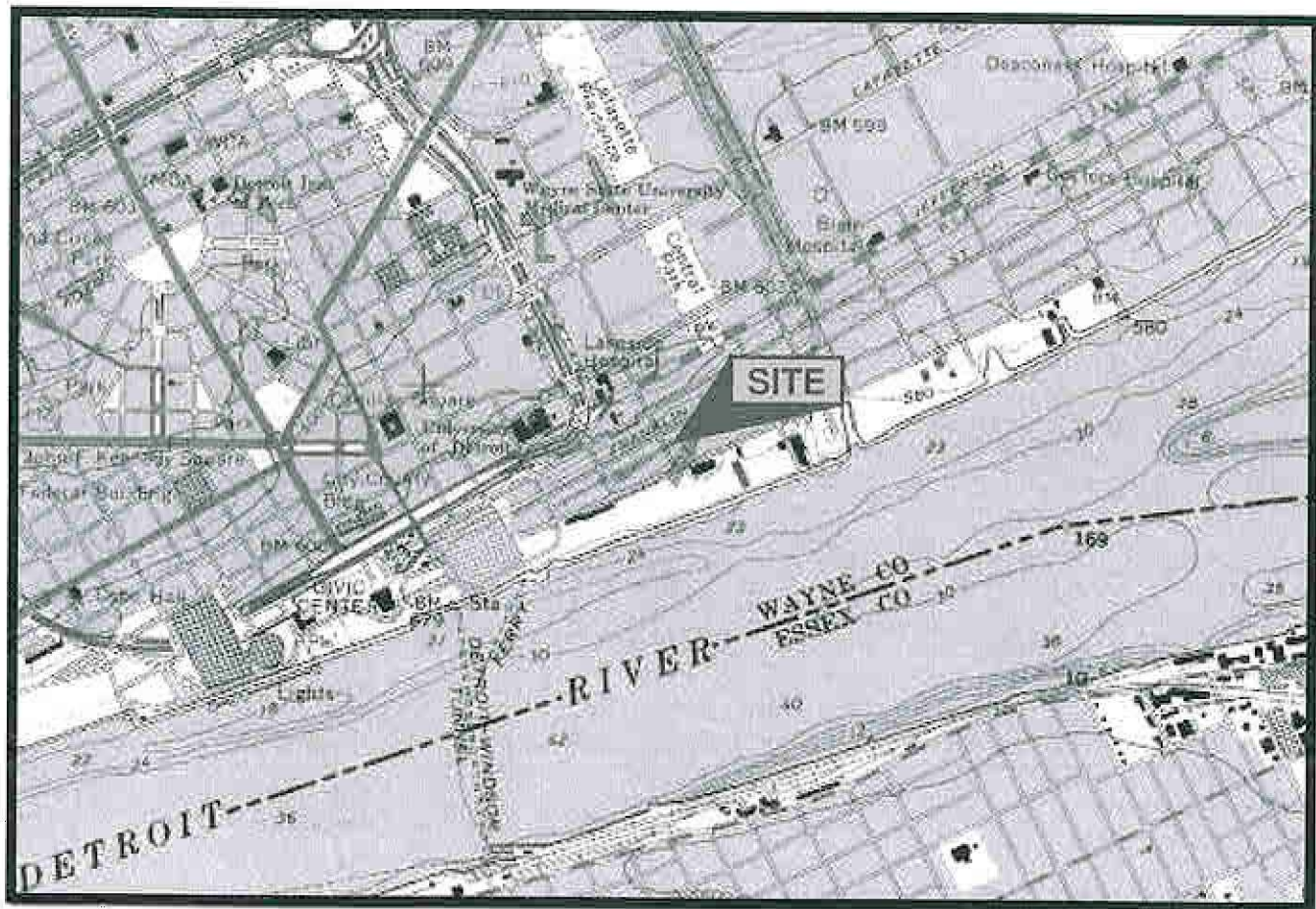


DRAWN BY: JM  
DATE: 08.21.06

**FIGURE 1**



**DETROIT QUADRANGLE**  
**MICHIGAN - WAYNE COUNTY**  
**7.5 MINUTE SERIES (TOPOGRAPHIC)**



T.2 S. - R.12 E.



CONTOUR INTERVAL 5 FEET  
 DATUM IS MEAN SEA LEVEL



IMAGE TAKEN FROM 1968 U.S.G.S. TOPOGRAPHIC MAP  
 PHOTOREVISED 1973 AND 1980

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TOPOGRAPHIC LOCATION MAP

@WATER LOFTS

ATWATER STREET

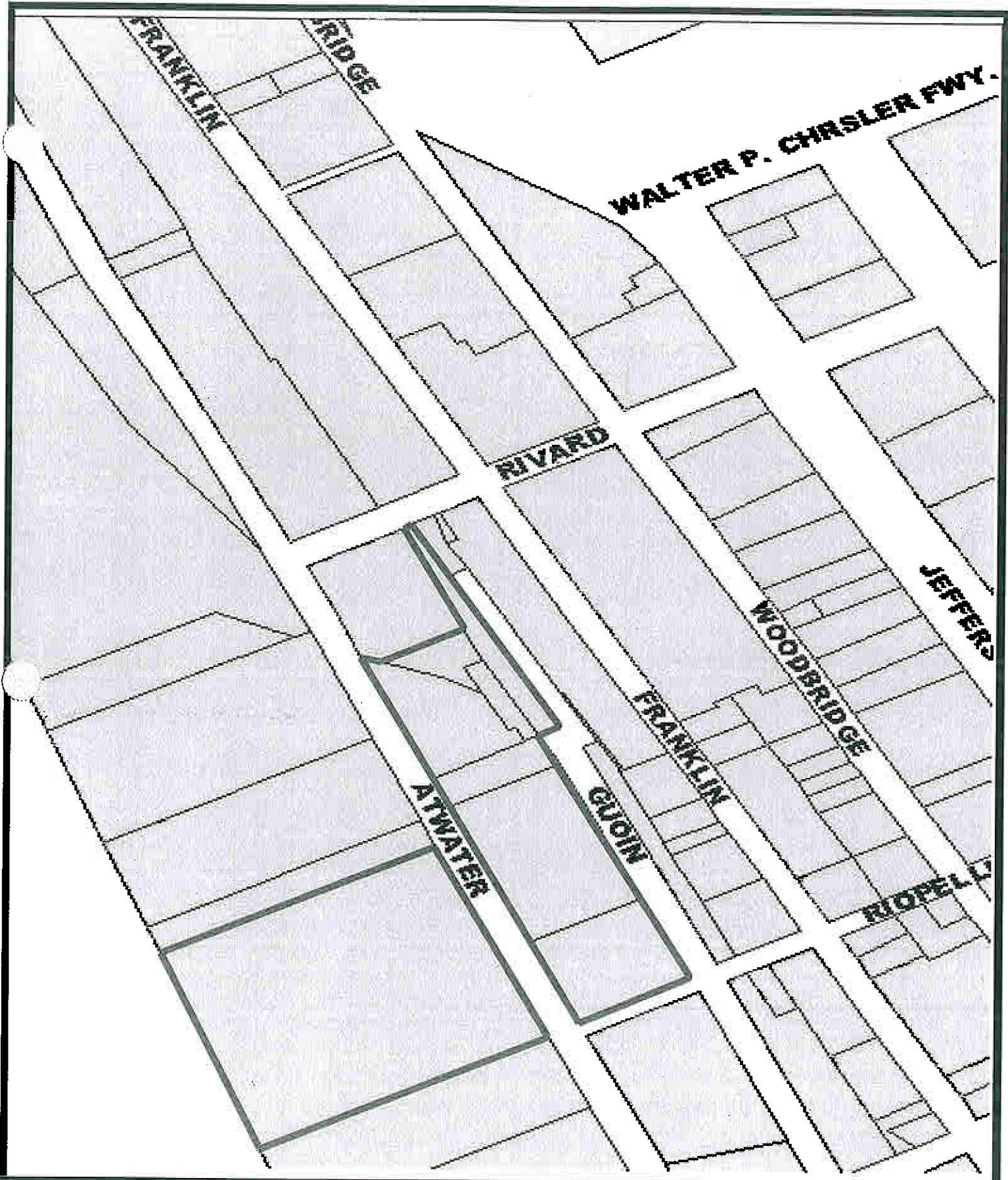
DETROIT, MICHIGAN

PROJECT NUMBER : 5133D

DRAWN BY: MB  
 DATE: 08.21.06

FIGURE 2





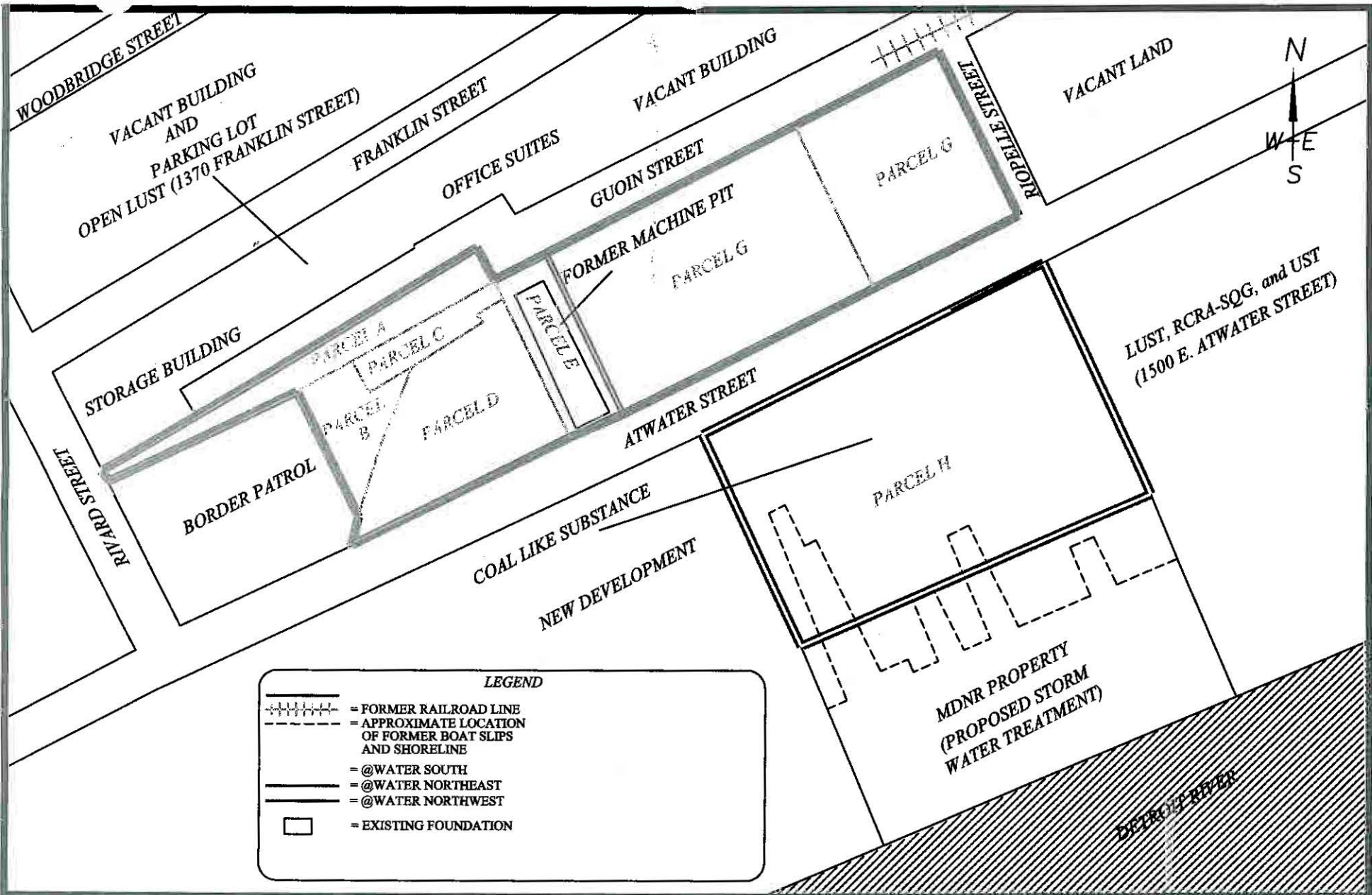
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environmental services

PARCEL MAP  
@WATER LOFTS  
ATWATER STREET  
DETROIT, MICHIGAN  
PROJECT NUMBER : 5133D

DRAWN BY: MB  
DATE: 08.23.06

FIGURE 3





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**SUBJECT PROPERTY MAP**

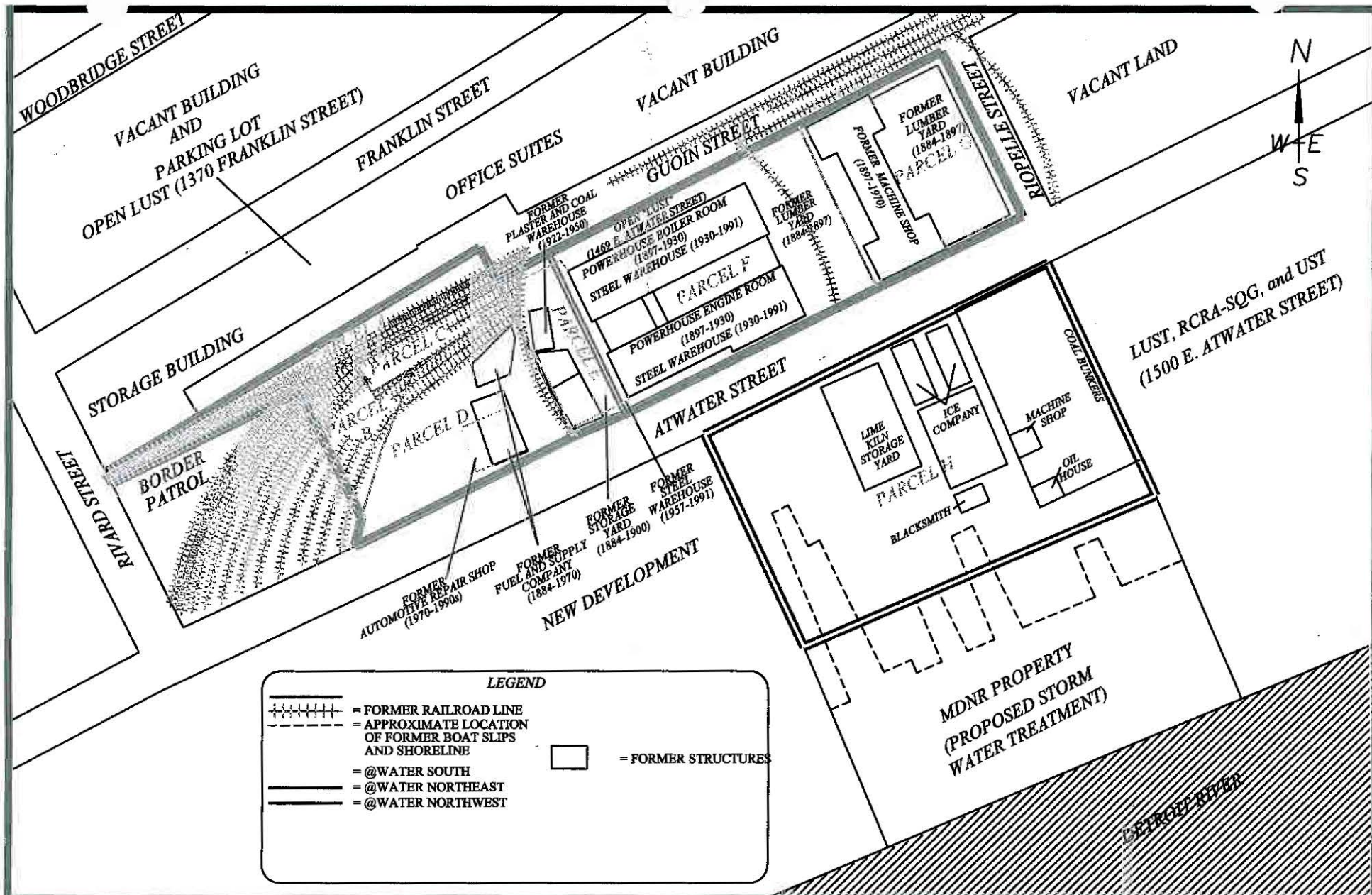
@WATER LOFTS  
ATWATER STREET  
DETROIT, MICHIGAN  
PROJECT NUMBER : 5133D

DRAWN BY: MB  
DATE: 08.23.06

0 75 150  
SCALE: 1" = 150'±

FIGURE 4





**APPENDIX A**

**GENERAL LIMITATIONS AND EXCEPTIONS**



### **General Limitations and Exceptions**

Subject to the proposal, scope-of-services, and the related terms and conditions referenced in Section 1.0 of this Phase I ESA, AKT Peerless accepts responsibility for the competent performance of its duties in executing the assignment and preparing reports in accordance with the normal standards of the profession, but disclaims any responsibility for consequential damages.

Although AKT Peerless believes that the findings, opinions, and recommendations contained herein are reliable and appropriate, AKT Peerless cannot warrant or guarantee that the information provided is exhaustive, or that the information obtained from any data sources is complete or accurate.

Along with the inherent limitations set forth in various sections of ASTM Standard Practice E 1527-00, the accuracy and completeness of this report may be limited by the following facts or conditions:

- Due to the poor scale of the historical aerial photographs, the presence or absence of small features (e.g., individual drums, fuel dispensers) could not be discerned reliably.
- AKT Peerless made reasonable efforts to determine if USTs or related equipment (collectively referred to as UST systems) are or have been present at the subject property. AKT Peerless defines reasonable efforts as obtaining and evaluating information from visual observations of unobstructed areas and from the secondary sources cited in this report. AKT Peerless recognizes, and suggests users of this assessment acknowledge, that the accuracy of our conclusions relative to the on-site presence or use of UST systems may be directly affected by the presence of physical obstructions at the time of the reconnaissance, or affected by our receipt and evaluation of incorrect information.
- AKT Peerless' evaluation of soil and groundwater features at and near the subject property was based only on published maps and other readily available information. AKT Peerless used this information to assess soil types and groundwater flow directions to determine if conditions at any nearby sites present an environmental threat to the subject property.
- Unless specifically noted otherwise, invasive investigation of any kind has not been performed during this Phase I ESA, nor has observation under floors, above ceilings, behind walls, within the surface and subsurface soil, within groundwater, within confined spaces, roof tops, or inaccessible areas been performed.
- AKT Peerless did not conduct sampling or analysis of air, soil, groundwater, surface water, or building materials as part of this Phase I ESA, unless specifically noted otherwise.
- This Phase I ESA did not include a physical inspection of the adjoining properties, which AKT Peerless observed from the subject property and from readily accessible public rights-of-way.
- AKT Peerless typically does not review historical or environmental information about nearby sites in detail unless known activities or events at a nearby site appear to present an environmental threat to the subject property.
- AKT Peerless' scope of services did not include conducting a review of property title documentation. AKT Peerless requested property title documentation and environmental cleanup liens from the Client, but was not provided this information, unless specifically

noted otherwise. However, as described in this report, AKT Peerless made reasonable attempts to determine if the State Environmental Agency maintains documentation regarding environmental liens recorded against the subject property.

- This assessment did not include a review or audit of operational environmental compliance issues, or of any environmental management systems, that may be associated with the subject property.
- This Phase I ESA did not include any investigation or evaluation of issues not specifically related to petroleum products or hazardous substances as defined in CERCLA (i.e., other areas of potential business environmental risk such as radon, lead in drinking water, etc.).
- The information and opinions contained in the report are given in light of this assignment. The report must be reviewed and relied upon only in conjunction with the terms and conditions expressly agreed-upon by the parties and as limited therein.
- Although AKT Peerless believes the results contained in herein are reliable, AKT Peerless cannot warrant or guarantee that the information provided is exhaustive, or that the information provided by the Client, third parties, or the secondary information sources cited in this report is complete or accurate.
- AKT Peerless is not in a position to provide an opinion regarding the Fair Market Value of the subject property. Therefore, a comparison of the purchase price of the subject property to other similar real estate transactions was not conducted during this assessment.
- Nothing in this report constitutes a legal opinion or legal advice. For information regarding individual or organizational liability, AKT Peerless recommends consultation with independent legal counsel.
- AKT Peerless relied upon specific knowledge of the Client, or information provided to the Client, to identify environmental liens, institutional controls, or property valuation issues. As possible within the time frame and cost of this project, AKT Peerless looked for any obvious environmental information regarding these issues made readily available during the course of this ESA.
- The information and opinions presented in this report are for the exclusive use of the Client. No distribution to or reliance by other parties may occur without the express written permission of AKT Peerless. AKT Peerless will not distribute this report without written consent from the Client, or as required by law or by a Court order.
- Any third parties to whom the right to rely on the contents of this report have been granted by AKT Peerless, which is explicitly required prior to any third-party release, expressly agrees to be bound by the original terms and conditions entered into by AKT Peerless and the Client.

**APPENDIX B**

**LEGAL DESCRIPTION**



Address	Parcel ID	Legal Description
1364 Franklin	5/000016	S FRANKLIN PT OF VAC GUION ST LYG E OF RIVARD ST AND N OF ATWATER ST BG IN PC 181 & 132 DESC AS BEG AT A PTE N 26D 17M 33S W 175 FT FROM THE N E COR OF RIVARD AND ATWATER STS 50 FT WD TH N 26D 17M 33S W 11.96 FT TH N 59D 51M 18S E 474.83 FT ALG THE LINE OF GUION ST TH S 26D 58M 02SE 38.66 FT TO THE SLY LINE GUION ST TH S 59D 51M 18S W 247.63 FT TH N 26D 17M 33S W 5.8 FT TH S 65D 07M 46S W 227.21 FT TO P O B 5/---- 14678 SQ FT BET RIVARD AND RIOPELLE
1365 E. Atwater	5/000010	N E ATWATER ST W 33.33 FT OF E 99.33 FT A A TRIANG LOT LYG N OF G MULLETT FARM P C 7 & 132 5/5 33.33 IRREG
1370 Guoin	5/000012	S GUION ST W 142.25 FT E LYG N OF LOT C D & F MULLETT FARM P C 7 & 132 5/5 142.61 IRREG
1325 E. Atwater	5/000009	N ATWATER ALL THAT PT OF PC 7 AND 132 LYG N OF & ADJ ATWATER ST DESC AS FOLS BEG AT A PTE DIST 87.62 FT N 65D 33M E FROM INTSEC OF W LINE OF P C 7 & 132 & N LINE OF ATWATER ST TH N 17D 46M 12S E 132.32 FT TH N 21D 2M E 80.67 FT TH N 63D 16M 13S E 84.95 FT TH N 26D 16M W 10.32 FT TH N 65D 33M E 33.33 FT TH S 26D 16M E 169.58 FT TH S 65D 33M W 269.65 FT TO P O B 5/5 30,809 SQ FT
1399 E. Atwater	5/000011	N E ATWATER ST E 66 FT N & ADJ ATWATER ST BG N 193.01 FT ON W LINE BG N 200 FT ON E LINE OF MULLETT FARM P C 7 & 132 5/5 12,480 SQ FT
1461 E. Atwater	7/000007	N ATWATER 8-9-10 W 1/2 11 W 1/2 12 PLAT OF GUION FARM L11 P596 DEEDS, W C R 7/3 60,600 SQ FT
1471 E. Atwater	7/000008	N ATWATER E 1/2 11 E 1/2 12 PLAT OF GUION FARM L11 P596 DEEDS, W C R 7/3 12-13 SUB OF RIOPELLE FARM L15 P394-5 CITY RECORDS, WCR 7/2 7-6-5 COMMISSIONERS SUB L276 P289 DEEDS, W C R 7/4 36,000 SQ FT
1470 E. Atwater	7/000005	S ATWATER 3 THRU 1 SUB OF RIOPELLE FARM L15 P394-5 CITY RECORDS, WCR 7/2 6 THRU 2 PLAT OF GUION FARM L11 P596 DEEDS, W C R 7/3 213,963 SQ FT

**APPENDIX C**

**RECONNAISSANCE PHOTOGRAPHS**



*PHOTOGRAPH NO. 1: SUBJECT PROPERTY (PARCELS A, B, C, D, E, F, AND G)  
AS VIEWED FACING NORTH*



*PHOTOGRAPH NO. 2: SUBJECT PROPERTY (PARCEL A)  
AS VIEWED FACING EAST*

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*RECONNAISSANCE PHOTOGRAPHS*

ATWATER LOFTS  
ATWATER STREET, RIOPELLE STREET,  
RIVARD STREET, AND GUOIN STREET  
DETROIT, MICHIGAN

TAKEN BY: M. BAHORSKI  
DATE: 10.9.06

PROJECT NUMBER: 5133D-1-17





*PHOTOGRAPH NO. 3: SUBJECT PROPERTY (PARCELS B, C, D, E, F, AND G)  
AS VIEWED FACING EAST*



*PHOTOGRAPH NO. 4: SUBJECT PROPERTY (PARCELS F, AND G)  
AS VIEWED FACING SOUTH*

**AKT** PEERLESS  
environmental services

*RECONNAISSANCE PHOTOGRAPHS*

ATWATER LOFTS  
ATWATER STREET, RIOPELLE STREET,  
RIVARD STREET, AND GUOIN STREET  
DETROIT, MICHIGAN

TAKEN BY: M. BAHORSKI  
DATE: 10.9.06

PROJECT NUMBER: 51330-1-17